PART-A

INTRODUCTORY MICRO ECONOMICS

UNIT 1: INTRODUCTION

KEY CONCEPTS

- ❖ MICRO ECONOMICS
- ❖ ECONOMY
- ❖ TYPES OF ECONOMY
  - PLANNED ECONOMY
  - MARKET ECONOMY
- ❖ CENTRAL PROBLEMS OF AN ECONOMY | BASIC ECONOMIC PROBLEMS
  - WHAT TO PRODUCE?
  - HOW TO PRODUCE?
  - FOR WHOM TO PRODUCE?
- ❖ CAUSES OF AN ECONOMIC PROBLEM
- ❖ PRODUCTION POSSIBILITY CURVE
- ❖ MARGINAL OPPORTUNITY COST –MOC
- ❖ MARGINAL RATE OF TRANSFORMATION
- ❖ SCARCITY OF RESOURCES
- ❖ OPPORTUNITY COST

1. **MICRO ECONOMICS:** It is a study of behaviour of individual units of an economy such as individual consumer, producer etc.
2. **ECONOMY:** An economy is a system by which people get their living.
3. **TYPES OF ECONOMY:**
   (i) Capitalist economy / Market economy
   (ii) Socialist economy / Planned economy
   (iii)Mixed economy
4. **MARKET ECONOMY:** It is an economic system, in which all material means of production are owned and operated by the private with profit motive.
5. **PLANNED ECONOMY:** In this economy all material means of production are owned by the government or by a centrally planned authority. All important decisions regarding production, exchange and distributions, consumptions of goods and services are made by the government or by a centrally planned authority
6. **ECONOMIC PROBLEM:** "An economic problem is basically the problem of choice" which arises due to scarcity of resources having alternative uses".
7. **CAUSES OF ECONOMIC PROBLEM :**
   i) Scarcity of resources
   ii) Unlimited wants
   iii) Limited resources having alternative uses

8. **BASIC (CENTRAL) ECONOMIC PROBLEMS**
   i) Allocation of resources
      a. What to produce?
      b. How to produce?
      c. For whom to produce
   ii). Efficient Utilization of resources
   iii.) Growth of resources
9. **PRODUCTION POSSIBILITY CURVE (PPC):** PP curve shows all the possible combination of two goods that can be produced with the help of available resources and technology.
10. **MARGINAL OPPORTUNITY COST:** MOC of a particular good along PPC is the amount of other good which is sacrificed for production of additional unit of another good.
11. **MARGINAL RATE OF TRANSFORMATION:** MRT is the ratio of units of one good sacrificed to produce one more unit of other good.

$$MRT = \frac{\text{Unit of one good sacrificed}}{\text{More unit of other good produced}} = \frac{\Delta y}{\Delta x}$$

12. **SCARCITY OF RESOURCES:** Scarcity of resources means shortage of resources in relation to their demand.
13. **OPPORTUNITY COST:** It is the cost of next best alternative foregone.
14. **POSITIVE ECONOMICS:** Positive economics deals with what is, what was (or) how an economic problem facing the society is actually solved.
15. **NORMATIVE ECONOMICS:** It deals with what ought to be (or) how an economic problem should be solved.

VERY SHORT ANSWER QUESTIONS (1 MARK)

1. What is economics about?

Ans : - Economics is the study of the problem of choice arising out of scarcity of resources having alternative uses.

2. Define scarcity.

Ans : - Scarcity means shortage of resources in relation to their demand is called scarcity.

3. What is an economy?

Ans : - An economy is a system by which people get their living.

4. Define central problem.

Ans : - Central problem is concerned with the problems of choice (or) the problem of resource allocation.

5. What do you understand by positive economic analysis?

Ans : - It deals with what is (or) how an economic problem facing an economy is solved. It analyses the cause of effect relationship.

6. What do you understand by normative economic analysis?

Ans : - Normative economic analysis deals with what ought to be (or) how an economic problem should be solved.

7. Give one reason which gives rise to economic problems?

Ans : - Scarcity of resources which have alternative uses.

8. Name the three central problems of an economy.

Ans : - i) What to produce?

ii) How to produce?

iii) For whom to produce?

9. What is opportunity cost?

Ans : - It is the cost of next best alternative foregone.

10. Why is there a need for economizing of resources?

Ans : - Resources are scarce in comparison to their demand, therefore it is necessary to use resources in the best possible manner without wasting it.

11. What is production possibility frontier?

Ans : - It is a boundary line which shows the various combinations of two goods which can be produced with the help of given resources and technology.

12. Why PPC is concave to the origin?

Ans :- PPC is concave to the origin because of increased marginal opportunity cost.

13. Define marginal rate of transformation.

Ans :- MRT is the ratio of units of one good sacrificed to produce one more unit of

other goods. MRT = $\Delta y / \Delta x$

14. What does a point inside the PPC indicate?

Ans :- Any point inside the production possibility curve indicate underutilization of resources.

15. What do you mean by the problem of what to produce?

Ans :- It is the problem of choosing which goods and services should be produced in what quantities.

16. What do you understand by the problem of how to produce?

Ans :- It is the problem of choosing technique of production of goods and services.

17. What does the problem for whom to produce indicate?

Ans :- The problem of for whom to produce refers to the distribution of goods and services produced in the economy.

18. Give two examples each of micro economics & macroeconomics.

Ans :- Microeconomics – Individual demand, individual supply

Macroeconomics – Aggregate demand and aggregate supply

19. What does a rightward shift of PPC indicate?

Ans :- It indicates a) growth of resources b) improvement in technology

20. What is meant by economising of resources?

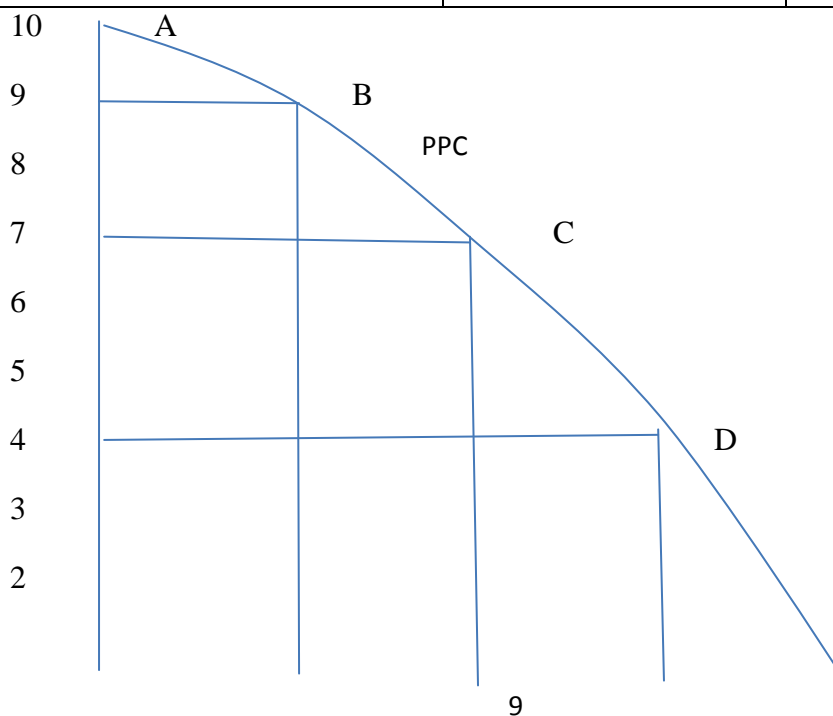
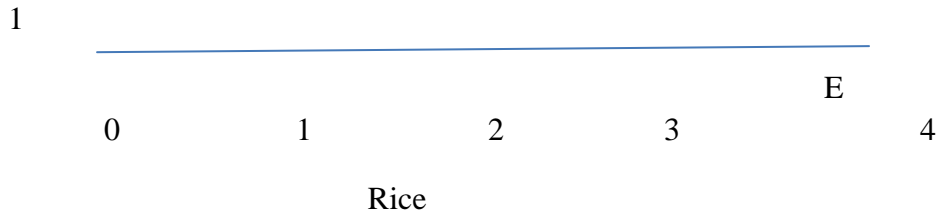
Ans :- It means making best use of available resources.

SHORT ANSWER QUESTIONS (3 / 4 MARKS)

1. What is production possibility frontier?

Ans :- It is a boundary line which shows that maximum combination of two goods which can be produced with the help of given resources and technology at a given period of time.

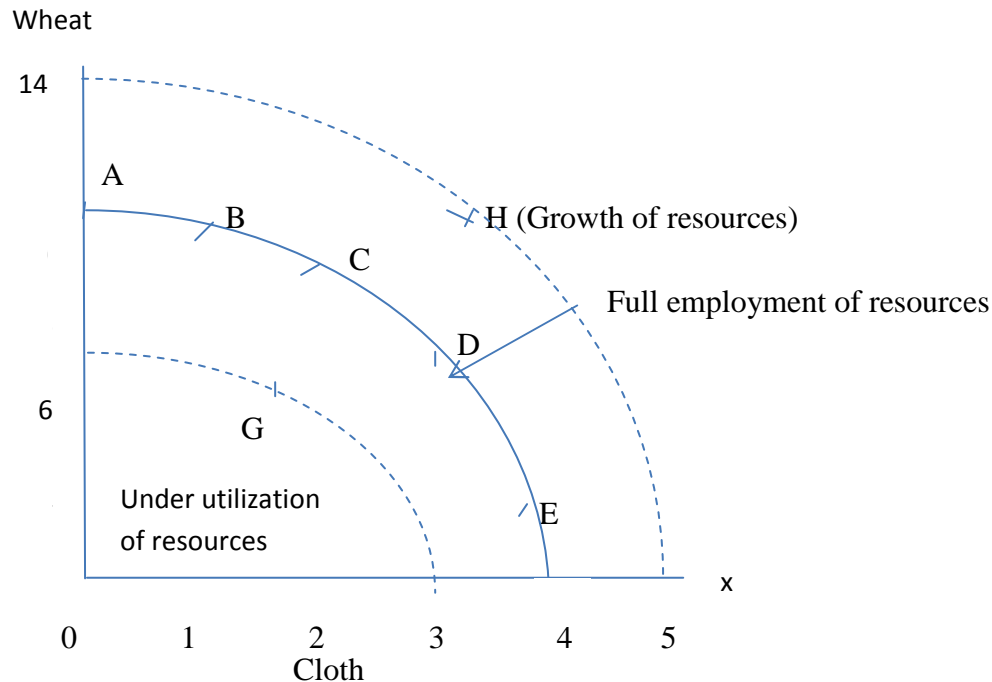
Ex: An economy can produce two goods say rice or oil by using all its resources. The different combination of rice and oil are as follows:

Production Possibilities	Rice (quintals)	Oil (litres)
A	0	10
B	1	9
C	2	7
D	3	4
E	4	0

2. **Draw a production possibility curve and mark the following situations:**

a) underutilization of resources
b) full employment of resources
c) growth of resources

Ans. Every point on PP curve like ABCDEF indicates full employment and efficient uses of resources.

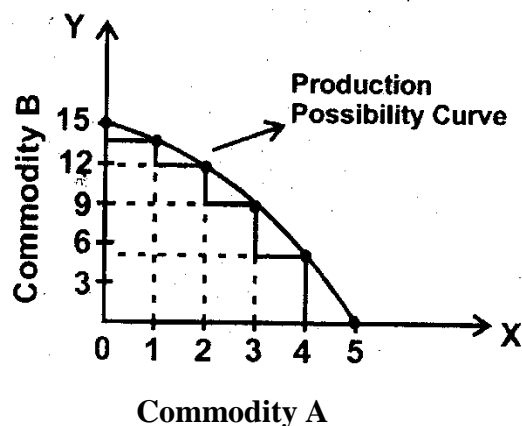
Any point below or inside PP curve like G underutilization of resources.

Any point above PP curves like H indicates growth of resources.

Production Possibility Curve And Opportunity Cost

It refers to a curve which shows the various production possibilities that can be produced with given resources and technology.

Production Possibilities

Production Possibility	Commodity A	Commodity B	Marginal opportunity cost of commodity A
A	0	15	-
B	1	14	15-14=1

C	2	12	14-12=2
D	3	09	12-9=3
E	4	05	9-5=4
F	5	0	5-0=5

Commodity A

If the economy devotes all its resources to the production of commodity B, it can produce 15 units but then the production of commodity A will be zero. There can be a number of production possibilities of commodity A & B

If we want to produce more commodity B, we have to reduce the output of commodity A & vice versa.

Shape of PP curve and marginal opportunity cost.

1) PP curve is a downward sloping curve.

   In a full employment economy, more of one goods can be obtained only by giving up the production of other goods. It is not possible to increase the production of both of them with the given resources.

2) The shape of the production possibility curve is **concave** to the origin.

   The opportunity cost for a commodity is the amount of other commodity that has been foregone in order to produce the first.

   The marginal opportunity cost of a particular good along the PPC is defined as the amount sacrificed of the other good per unit increase in the production of the good in question.

Example: Suppose a doctor having a private clinic in Delhi is earning Rs. 5lakhs annually. There are two other alternatives for him.

1) Joining a Govt. hospital in Bangalore earning Rs. 4 lakhs annually.
2) Opening a clinic in his home town in Mysore and earning 3 lakhs annually.

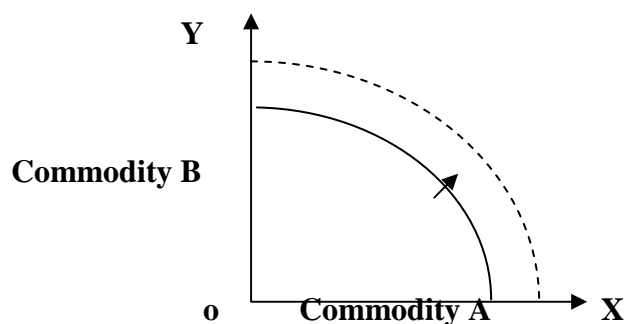
The opportunity cost will be joining Govt. hospital in Bangalore.

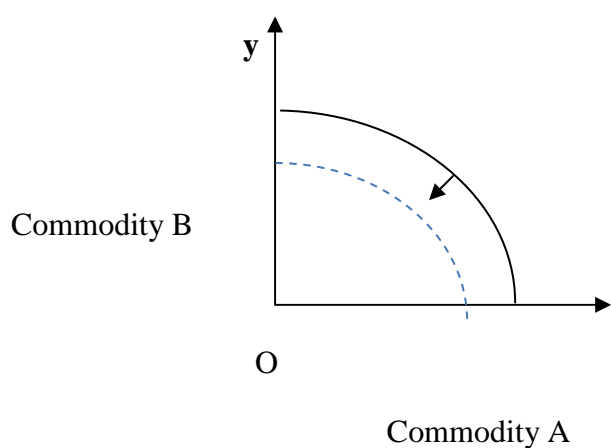
Increasing marginal opportunity cost implies that PPC is concave.

Shift in PP curve

(1) Upward shift

(a) When there is improvement in technology.

(b) Increase in resources.

(2) Downward shift

When Resources depletes

3. Distinguish between a centrally planned economy and a market economy.

SNo	Planned Economy	Market Economy
1	All the materials means of production are owned by government.	All the materials means of production are owned by private individuals.
2	Main objectives of production is social welfare	Main objectives of production are maximization of profit.
3	Ownership of property is under government control.	There is no limit to private ownership of property.

4	All the economic problems are solved as per direction of the planning commission.	All the economic problems are solved through price mechanism i.e., demand and supply.

4. Distinguish between micro economics and macroeconomics.

SNo	Micro economics	Macro economics
1	It studies individual economic unit.	It studies aggregate economic unit
2	It deals with determination of price and output in individual markets	It deals with determination of general price level and output in the economy.
3	Its central problems are price determination and allocation of resources.	Its central problem is determination of level of Income and employment in the economy.

HOTS

1. Does massive unemployment shift the PPC to the left?

Ans:- Massive unemployment will shift the PPC to the left because labour force remains underutilized. The economy will produce inside the PPC indicating underutilization of resources.

2. What does the slope of PPC show?

Ans. The slope of PPC indicates the increasing marginal opportunity cost.

3. From the following PP schedule calculate MRT of good x.

Production possibilities	A	B	C	D	E
Production of good x units	0	1	2	3	4
Production of good y units	14	13	11	8	4

Production of good X units	Production of good Y units	MRT = Δy / Δx
0	14	-
1	13	1:1
2	11	2:1
3	8	3:1
4	4	4:1

How are fundamental problems solved in the capitalistic economy.

In a market-oriented or capitalist economy, the fundamental problems are solved by the market mechanism. Price is influenced by the market forces of demand and supply. These forces help to decide what, how and for whom to produce.

<u>How are fundamental problems solved in the planned economy?</u>

In a planned economy all the economic decisions regarding what, how and for whom to produce are solved by the state through planning. Economic planning replaces the price mechanism. The market is regulated by the state. The prices of the various products are fixed by the state called administered prices.

PART B-INTRODUCTORY MACRO ECONOMICS

Unit VI: NATIONAL INCOME AND RELATED AGGREGATES:

KEY CONCEPTS

- Macro Economics: Its meaning
- Consumption goods, capital goods, final goods, intermediate goods, stock and flow, gross investment and depreciation.
- Circular flow of income
- Methods of calculation of national income
- Value added method (product method)
- Expenditure method
- Income method
- Concepts and aggregates related to national income
- Gross national product
- Net National product
- Gross and Net domestic product at market price and at factor cost.
- National disposable income (Gross and net)
- Private income
- Personal income
- Personal disposable income
- Real and Nominal GDP
- GDP and welfare

Macro Economics: - Macroeconomics is the study of aggregate economic variables of an economy.

Consumption goods:- Are those which are bought by consumers as final or ultimate goods to satisfy their wants.
Eg: Durable goods car, television, radio etc.
Non-durable goods and services like fruit, oil, milk, vegetable etc.
Semi durable goods such as crockery etc.

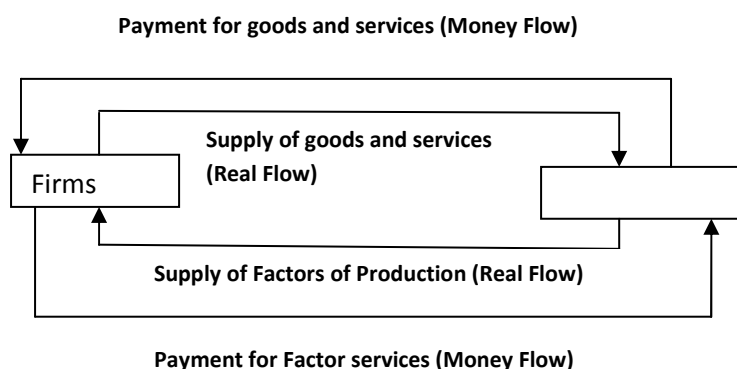
Capital goods – capital goods are those final goods, which are used and help in the process of production of other goods and services. E.g.: plant, machinery etc.

Final goods: Are those goods, which are used either for final consumption or for investment. It includes final consumer goods and final production goods. They are not meant for resale. So, no value is added to these goods. Their value is included in the national income.
Intermediate goods intermediate goods are those goods, which are used either for resale or for further production. Example for intermediate good is- milk used by a tea shop for selling tea.
Stock: - Quantity of an economic variable which is measured at a particular point of time.
Stock has no time dimension. Stock is static concept.
Eg: wealth, water in a tank.

Flow: Flow is that quantity of an economic variable, which is measured during the period of time.
Flow has time dimension- like per hr, per day etc.
Flow is a dynamic concept.
Eg: Investment, water in a stream.

Investment: Investment is the net addition made to the existing stock of capital.

Net Investment = Gross investment – depreciation.
Depreciation: - depreciation refers to fall in the value of fixed assets due to normal wear and tear, passage of time and expected obsolescence.

Circular flow in a two sector economy.

Producers (firms) and households are the constituents in a two sectors economy.
Households give factors of production to firm and firms in turn supply goods and services to households.

Related aggregates

Gross Domestic product at market price

It is the money value of all final goods and services produced during an accounting year with in the domestic territory of a country.

Gross National product at market price:

It is a money value of all final goods and services produced by a country during an accounting year including net factor income from abroad.

Net factor income from abroad:

Difference between the factor incomes earned by our residents from abroad and factor income earned by non-residents with in our country.

Components of Net factor income from abroad

- Net compensation of employees
- Net income from property and entrepreneurship (other than retained earnings of resident companies of abroad)
- Net retained earnings of resident companies abroad

Formulas

- NNP_{Mp} = GNP mp - depreciation
- $NDP_{Mp} = GDP_{mp}$ - depreciation

- NDP_{Fc} = NDP_{mp} – Net indirect taxes (indirect tax – subsidies)
- GDP_{Fc} = NDP_{fc} + depreciation
- NNP_{Fc} = GDP_{mp} - depreciation + Net factor income from abroad – Net indirect taxes
- (NNP_{FC} is the sum total of factor income earned by normal residents of a country during the accounting year)
- NNP_{fc} = NDP_{fc} + Net factor income from abroad.

<u>Concept of domestic (economic) territory</u>

Domestic territory is a geographical territory administered by a government within which persons, goods and capital circulate freely. (Areas of operation generating domestic income, freedom of circulation of persons, goods and capital)

Scope identified as
*Political frontiers including territorial waters and air space.
*Embassies, consulates, military bases etc. located abroad but including those locates within the political frontiers.
*Ships, aircrafts etc., operated by the residents between two or more countries.
*Fishing vessels, oil and natural gas rigs etc. operated by the residents in the international waters or other areas over which the country enjoys the exclusive rights or jurisdiction.

Resident (normal resident):-
Normal resident is a person or an institution who ordinarily resides in that country and whose center of economic interest lies in that country.
(The Centre of economic interest implies :-(1) the resident lives or is located within the economic territory. (2) The resident carries out the basic economic activities of earnings, spending and accumulation from that location 3. His center of interest lies in that country.

<u>Relation between national product and Domestic product</u>.
Domestic product concept is based on the production units located within domestic (economic) territory, operated both by residents and non-residents.
National product concept based on resident and includes their contribution to production both within and outside the economic territory.

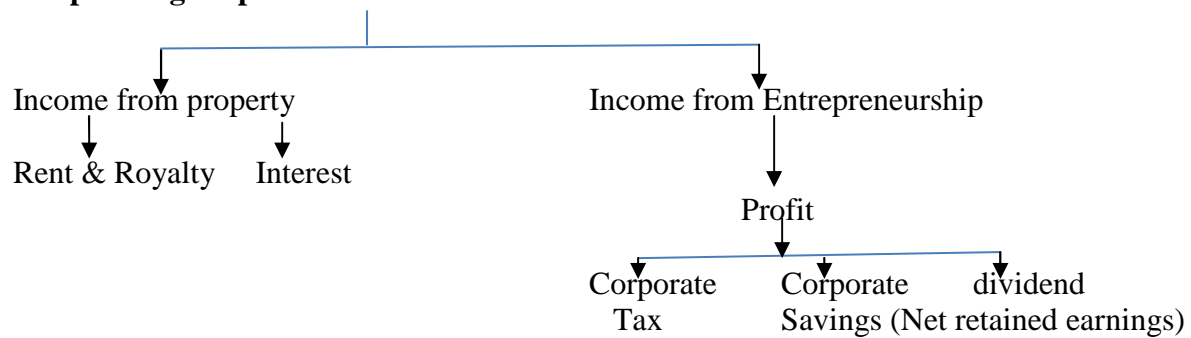
National product = Domestic product + Residents contribution to production outside the economic territory (Factor income from abroad) - Non- resident contribution to production inside the economic territory (Factor income to abroad)

<u>Methods of calculation of national income</u>

I - PRODUCT METHOD (Value added method):

- Sales + change in stock = value of output
- Change in stock = closing stock – opening stock
- Value of output - Intermediate consumption = Gross value added (GDP_{Mp})
- NNP_{Fc} (N.I) = GDPMp (-) consumption of fixed capital (depreciation)
  (+) Net factor income from abroad
  (-) Net indirect tax.

<u>Income method:</u>
1. Compensation of employees.

2. Operating surplus.

3. Mixed income of self-employed.

- NDP fc = (1) + (2) + (3)
- NNP fc = NDP fc (+) Net factor income from abroad
- GNP mp = NDP fc + consumption of fixed capital + Net indirect tax
  (Indirect tax – subsidy)

<u>Expenditure method</u>:

1. Government final consumption expenditure.
2. Private final consumption expenditure.
3. Net Export.
4. Gross domestic capital formation.

Gross Domestic fixed Capital formation + Change in stock

GDPmp = (1) + (2) + (3) + (4)

NNP fc = GDPmp - consumption of fixed capital + NFIA- Net indirect taxes

Note: If capital formation is given as <u>Net domestic capital formation</u> we arrive at NDPmp.

Capital formation = Investment

CALCULATION OF NATIONAL DISPOSABLE INCOME, PRIVATE INCOME, PERSONAL INCOME AND PERSONAL DISPOSABLE INCOME

National Disposable income	**Private Income includes factor income as well as Transfer income (Earned income + Unearned income)**	**Personal Income**

It is the income from all the sources (Earned Income as well as transfer payment from abroad) available to resident of a country for consumption expenditure or saving during a year. NNP_{FC} + Net Indirect tax + Net current transfer from abroad =Net National disposable income. (Gross National Disposable Income includes depreciation)	*Factor income from net domestic product accruing to private sector includes income from enterprises owned and controlled by the private individual.* *Excludes:-* *1. Property and entrepreneurial income of the Gov. departmental enterprise* *2. Savings of the Non-departmental Enterprise.* Factor Income from NDP Accruing to private sector = NDP_{FC} (-) income from properly entrepreneurship accruing to the govt departmental Enterprises (-) savings of Non departmental enterprises. **<u>Private Income Includes</u>** * Factor income from net domestic product accruing to private sector. + Net factor income from abroad + Interest on National Debt + Current transfer from Govt. + Current transfer from rest of the world.	*PI is the income Actually received by the individuals and households from all sources in the form of factor income and current transfers.* Personal income = Private Income (-) corporation tax. (-) Corporate Savings OR Undistributed profits **<u>Personal disposable income</u>** Personal income (-) Direct Personal tax (-) Miscellaneous Receipts of the govt. Administrative department (fees and fines paid by house hold.)

<u>One Mark questions.</u>

1. When will the domestic income be greater than the national income?
Ans: When the net factor income from abroad is negative.

2. What is national disposable income?
Ans.It is the income, which is available to the whole economy for spending or disposal

NNP_{Mp} + net current transfers from abroad = NDI

3. What must be added to domestic factor income to obtain national income?
Ans. Net factor income from abroad.

4. Explain the meaning of non-market activities
Ans. Non marketing activities refer to acquiring of many final goods and services not through regular market transactions. E.g. vegetable grown in the backyard of the house.

5. Define nominal GNP
Ans. GNP measured in terms of current market prices is called nominal GNP.

6. Define Real GNP.
Ans. GNP computed at constant prices (base year price) is called real GNP.

7. Meaning of real flow.
Ans. It refers to the flow of goods and services between different sectors of the economy. Eg. Flow of factor services from household to firm and flow of goods and services from firm to household.

8. Define money flow.

It refers to the flow of money between different sectors of the economy such as firm, household etc. Eg. Flow of factor income from firm to house hold and consumption expenditure from house hold to firm.

3- 4 Mark Questions

1. Distinguish between GDP_{Mp} and GNP_{FC}

Ans. The difference between both arise due to (1) Net factor income from abroad. and 2) Net indirect taxes. In GDP_{Mp} Net factor income from abroad is not included but it includes net indirect taxes.

GNP_{FC} = GDPMp + net factor income from abroad – net indirect taxes

2. Distinguish between personal income and private income

Ans. Personal income: -It is the sum total of earned income and transfer incomes received by persons from all sources within and outside the country.

Personal income = private income – corporate tax –corporate savings (undistributed profit)

Private income consists of factor income and transfer income received from all sources by private sectors within and outside the country.

3. Distinguish between nominal GNP and real GNP

Ans. Nominal GNP is measured at current prices. Since this aggregate measures the value of goods and services at current year prices, GNP will change when volume of product changes or price changes or when both changes.

Real GNP is computed at the constant prices. Under real GNP, value is expressed in terms of prices prevailing in the base year. This measure takes only quantity changes. Real GNP is the indicator of real income level in the economy.

4. Explain the main steps involved in measuring national income through product method

Ans.

a) Classify the producing units into industrial sectors like primary, secondary and tertiary sectors.
b) Estimate the net value added at the factor cost.
c) Estimate value of output by sales + change in stock
d) Estimate gross value added by value of output – intermediate consumption
e) Deduct depreciation and net indirect tax from gross value added at market price to arrive at net value added at factor cost = NDP_{Fc}
f) Add net factor income received from abroad to NDP_{Fc} to obtain NNP_{FC} which is national income

5. Explain the steps involved in calculation of national income through income method

a) Classify the producing enterprises into industrial sectors like primary, secondary and tertiary.
b) Estimate the following factor income paid out by the producing units in each sector i.e.
   *Compensation of employees
   *Operating surplus
   *Mixed income of self employed

c) Take the sum of the factor income by all the industrial sectors to arrive at the NDP $_{Fc}$ (Which is called domestic income)
d) Add net factor income from abroad to the net domestic product at factor cost to arrive at the net national product at factor cost.

6. Explain the main steps involved in measuring national income through expenditure method.

a) Classify the economic units incurring final expenditure into distant groups like households, government, firms etc.
b) .Estimate the following expenditure on final products by all economic units
   - Private final consumption expenditure
   - Government final consumption expenditure
   - Gross domestic capital formation
   - Net export

   (Sum total of above gives GDP$_{Mp)}$
c) Deduct depreciation, net indirect taxes to get NDP $_{Fc}$
d) Add net factor income from abroad to NDP $_{Fc}$ to arrive at NNP $_{FC}$.

7. What are the precautions to be taken while calculating national income through product method (value added method)

a) Avoid double counting of production, take only value added by each production unit.
b) The output produced for self-consumption to be included
c) The sale & purchase of second hand goods should not be included.
d) Value of intermediate consumption should not be included
e) The value of services rendered in sales must be included.

8. Precautions to be taken while calculating national income through income method.

a) Income from owner occupied house to be included.
b) Wages & salaries in cash and kind both to be included.
c) Transfer income should not be included
d) Interest on loans taken for production only to be included. Interest on loan taken for consumption expenditure is non-factor income and so not included.

9. Precautions to be taken while calculations N.I under expenditure method.

a) Avoid double counting of expenditure by not including expenditure on intermediate product
b) Transfer expenditure not to be included
c) Expenditure on purchase of second hand goods not to be included.

10. Write down the limitations of using GDP as an index of welfare of a country

1) The national income figures give no indications of the population, skill and resources of the country. A country may be having high national income but it may be consumed by the increasing population, so that the level of people's wellbeing or welfare standard of living remains low.

2) High N. I may be due to greater area of the country or due to the concentration of some resources in out particular country.

3) National income does not consider the level of prices of the country. People may be having income but may not be able to enjoy high standard of living due to high prices.

4) High N. I may be due to the large contribution made by a few industrialists

5) Level of unemployment is not taken into account.

6) National income does not care to reduce ecological degradation. Due to excess of economic activity which leads to ecological degradation reduces the welfare of the people.

Hence GNP and economic welfare are not positively related. Income in GNP does not bring about increase in economic welfare.

11. ‘Machine purchased is always a final good’ do you agree? Give reason for your answer

Whether machine is a final good or it depends on how it is being used (end use). If machine is bought by a household, then it is a final good. If machine is bought by a firm for its own use, then also it is a final good. If the machine is bought by a firm for resale then it is an intermediate good.

12. What is double counting? How can it be avoided?

Counting the value of commodities at every stage of production more than one time is called double counting.

It can be avoided by

a) taking value added method in the calculation of the national income.

b) By taking the value of final commodity only while calculating N.I

6 Mark questions

1. State whether following is true or false. Give reason for your answer.

a) Capital formation is a flow

True, because it is measured over a period of time.

b) Bread is always a consumer good.

False, it depends upon the end use of bread. When it is purchased by a household it is a consumer good. When purchased by restaurant for making sandwich, it is an intermediate (producer) good.

c) Nominal GDP can never be less that real GDP

False. Nominal GDP can be less than the real GDP when the prices in the base year is more than the current year.

d) Gross domestic capital formation is always greater than gross fixed capital formation.

False, gross domestic capital formation can be less than gross fixed capital formation if change in stock is negative.

2. Why are exports included in the estimation of domestic product by the expenditure method? Can the gross domestic product be greater than the gross national product? Explain

Expenditure method estimates expenditure on domestic product i.e., expenditure on final goods and services produced within the economic territory of the country. It includes expenditure by residents and non-residents both. Exports though purchased by non residents are produced within the economic territory and therefore a part of domestic product.

Domestic product can be greater than national product, if the factor income paid to the rest of the world is greater than the factor income received from the rest of the world i.e, when net factor income received from abroad is negative.

3. How will you treat the following while estimating domestic product of India?

a) Rent received by resident Indian from his property in Singapore.

No, it will not be included in domestic product as this income is earned outside the economic territory of India.

b) Salaries of Indians working in Japanese Embassy in India

It will not be included in domestic product of India as embassy of Japan is not a part of economic territory of India.

c) Profits earned by branch of American bank in India.
Yes, it is included as part of domestic product since the branch of American bank is located within the economic territory of India.
d) Salaries paid to Koreans working in the Indian embassy in Korea
Yes, it will be part of domestic product of India because the income is earned within the economic territory of India. Indian embassy in Korea is a part of economic territory of India.

4 How are the following treated in estimating national income from expenditure method? Give reason.
a) Purchase of new car by a household: purchase of car is included in the national income because it is final consumption expenditure, which is part of national income.
b) Purchase of raw material by purchase unit: purchase of raw material by purchase unit is not included in the national income because raw material is intermediate goods and intermediate goods and service are excluded from the national income. Purchase of raw material, if included in national income will result in double counting.
c) Expenditure by the government on scholarship to student is not included in the national income because it is a transfer payment and no productive service is rendered by the student in exchange.

5 Are the following item included in the estimating a country's national income? Give reason.
1) Free cloth given to workers: free cloth given to worker is a part of wages in kind i.e. compensation to employee such compensation to employee is paid for the productive services in the economy, it is included in the national income.
2) Commission paid to dealer in old car: commission paid to dealer in old car is included in the estimation of national income because it is the income of the dealer for his productive services to various parties.
3) Growing vegetable in a kitchen garden of the house: growing vegetable in a kitchen garden of the house amount to production, though not for sale for self-consumption. It is included in the national income because it adds to the production of goods.

NATIONAL INCOME – NUMERICALS

1. Calculate Value Added at factor cost from the following.

	ITEMS	Rs. CRORES
a.	Purchase of raw materials	30
b.	Depreciation	12
c.	Sales	200
d.	Excise tax	20
e.	Opening stock	15
f.	Intermediate consumption	48
g.	Closing stock	10

Ans: Sales + Δ in stock = value of output
200 + (cl. St – op. st)
200 + (10 -15)
= 200 -5=195
Value of output – intermediate consumption

= value added at MP
195-48 = 147
V.A at FC = V.A at MP – Net indirect tax
147 – 20
127 crores

2. Calculate (a) Net National Product at MP, and (b) Gross National Disposable Income

	ITEMS	Rs. crores
a.	Private final Consumption expenditure	200
b.	Net indirect taxes	20
c.	Change in stocks	(--)15
d.	Net current transfers from abroad	(--)10
e.	Govt. final consumption expenditure	50
f.	Consumption of fixed capital	15
g.	Net domestic capital formation	30
h.	Net factor income from abroad	5
i.	Net imports	10

Ans: (a) + (e) + (g) + (-i) = NDP_{MP}
200 + 50+ 30 -10
280 -10 = 270 crores
$NNP_{MP} = NDP_{MP}$ + NFIFA
270 + 5 = 275
NNP_{MP} + 275 crores

GNDI = NNP_{PC} + NFIFA + Net indirect taxes + Net current transfers from abroad + Depreciation (comp of fixed capital)
NNP_{MP} – net in tax = 275 – 20 =255 crores
GNDI = 255 + 20 + 5 + (-10) + 15
= 295 – 10 = 285 crores
GNDI = 285 crores

3. Calculate Gross Domestic Product at Market Price by
(a) Production Method and (b) Income Method

	ITEMS	Rs. crores
a.	Intermediate consumption by	
	i) Primary sector	500
	ii) Secondary sector	400
	iii) Tertiary sector	400
b.	Value of output by	
	i) Primary sector	1000
	ii) Secondary sector	900
	iii) Tertiary sector	700
c.	Rent	10
d.	Compensation of employees	400
e.	Mixed income	550
f.	Operating surplus	300
h.	Net factor income from abroad	(--)20
i.	Interest	5
j.	Consumption of fixed capital	40
k.	Net indirect taxes	10

Ans: GDP_{MP} by <u>production method</u>
(b) (i) + (ii) + (iii) – a (i) + (ii) + (iii) = value added
(1000+ 900 + 700) – (500 -400-400)
2600 – 1300 = 1300 crores   Value added at MP (GDP_{MP})

Income method

Compensation of employees + operating surplus + mixed income = NDP_{FC}
= 400 + 300 + 550 = 1250 crores
GDP_{MP} = NDP_{FC} + conspn of fixed capital + net In. tax
= 1250+ 40 + 10
GDP_{MP} =1300

4. Calculate Net National Disposable Income from the following data.

	ITEMS	**Rs. crores**
a.	Gross domestic product at MP	1000
b.	Net factor income from abroad	(-) 20
c.	Net indirect taxes	120
d.	Consumption of fixed capital	100
e.	Net current transfers from abroad	50

Ans: NNDI = GDP MP – consumption of fixed capital + Net FIFA + Net current transfer from abroad
= 1000- 100 + 50 + (-20)
= 880 + 50 = 930 crores

5. Calculate Gross National Disposable Income from the following.

	ITEMS	**Rs. crores**
a)	National Income	2000
b)	Net current transfers from rest of the world	200
c)	Consumption of fixed capital	100
d)	Net factor income from abroad	(-) 50
e)	Net indirect taxes	25

Ans: GNDI= (a) + (b) +(c) + (e)
= 2000 + 200 + 100 + 250
GNDI = 2550 crores

6. ESTIMATE NATIONAL INCOME BY
(a) EXPENDITURE METHOD (b) INCOME METHOD FROM THE FOLLOWING

DATA	**Rs. in crores**
1. Private final consumption expenditure	210
2. Govt: final consumption expenditure	50
3. Net domestic capital formation	40
4. Net exports	(-) 5
5. Wages & Salaries	170
6. Employer's contribution	10
7. Profit	45
8. Interest	20
9. Indirect taxes	30
10. Subsidies	05
11. Rent	10

12. Factor income from abroad 03
13. Consumption of fixed capital 25
14. Royalty 15

Ans: National Income (NNP FC)

<u>Expenditure Method</u>

(1) + (2) + (3) + (4) = NDP $_{MP}$

210 + 50 + 40 + (-5) = 295

NNP FC = NDP MP + factor Income from abroad – net Indirect tax (Indirect tax – subsidy)

295 + 3 – (30 -5)

295 + 3 – 25

= 298 – 25 = 273

NNP FC= 273 crores

<u>Income method</u>:

(5) + (6) + (7) + (8) + (11) + (15)

170 + 10 + 45 + 20 + 10 + 15

= 270 (NDP $_{FC}$)

NDP $_{FC}$ = NDP $_{FC}$ + FIFA

= 270 + 3= 273 crores

7. FROM THE FOLLOWING DATA CALCULATE
(a) NATIONAL INCOME (b) PERSONAL DISPOSIBLE INCOME.

1.	Profit	500
2.	Rent	200
3.	Private income	2000
4.	Mixed income of self-employed	800
5.	Compensation of employers	1000
6.	Consumption of fixed capital	100
7.	Net factor income from abroad	-(50)
8.	Net retained earnings of private employees’	150
9.	Interest	250
10.	Net exports	200
11.	Co-operation	100
12.	Net indirect tax	160
13.	Direct taxes paid by houses hold’s	120
14.	Employers contribution to social security scheme.	60

Ans: NNP FC (N. I) = (5) + (9) + (4) + (1) + (2)

1000 + 250+ 800 + 500 + 200

NDP FC = 2750 crores

NNP FC = NDP FC + (7)

= 2750 + (-50)

NNP Fc = 2700 crores

PDI = (3) – (8) – (11) – (13)

2000 – 150 – 100 -120

PDI = 2000 – 370 = 1630 crores

8. CALCULATE NATIONAL INCOME AND GROSS NATIONAL DISPOSABLE INCOME FROM THE FOLLOWING DATA.

Net indirect tax 05

Net domestic fixed capital formation	100
Net exports	(-) 20
Gov.: final consumption expenditure	200
Net current transfer from abroad	15
Private final consumption expenditure	600
Change in stock	10
Net factor from abroad	05
Gross domestic fixed capital formation	125

Ans: National Income (NNP_{FC})
= (4) + (6) + (2) + (7) + (3) = NDP_{MP}
= 200 + 600 + 100 + 10 + (-20)
= 910 -20 = 890
NDP_{MP} = 890 crores
NNP_{FC} = NDP_{MP} + (8) – (1)
= 890 + 5 -5
NNP_{FC} = 890
Depreciation = (9) – (2)
125 – 100 = 25 crores
GNDI = NNP_{FC} + Net Indirect Tax + Net Current transfers from abroad + depreciation
= 890 = 05+ 15 + 25
GNDI = 935 crores

9. CALCULATE NNP AT MARKET PRICE BY PRODUCTION METHOD AND INCOME METHOD **Crores**

1.	Inter mediate consumption	
	(a) primary sector	500
	(b) Secondary sector	400
	(c) tertiary sector	300
2.	Value of output of	
	(a) primary sector	1,000
	(b) Secondary sector	900
	(c) tertiary sector	700
3.	Rent	10
4.	Emoluments of employers	400
5.	Mixed income	650
6.	Operating surplus	300
7.	Net factor income from abroad	-20
8.	Interest	05
9.	Consumptive of fixed capital	40
10.	Net indirect tax	10

Ans: NNP_{MP} by production method
(2) Value of output – (1) Intermediate conspn = value added at MP
(2) a + b+ c – (1) a + b + c
1000 + 900 + 700 – 500 + 400 + 300
2600 – 1200
1400 = GDP_{MP}

$NNP_{MP} = GDP_{MP} – (9) + (7)$
$= 1400 – 40 + (-20)$
$NNP_{MP} = 1340$
Income Method:
$NNP_{MP} = (4) + (5) + (6) + (10) + (7)$
$= 400 + 650 + 300 + 10 + (-20)$
$NNP_{MP} = 1350 + 10 – 20$

10. CALCULATE GNP at FACTOR COST BY INCOME METHOD AND EXPENDITURE METHOD.

	Rupees in crores
1. Private final consumption expenditure	1000
2. Net domestic capital formation	200
3. Profit	400
4. Compensation of employers	800
5. Rent	250
6. Gov.: final consumption expenditure	500
7. Consumption of fixed capital	60
8. Interest	150
9. Net current transfer from row	(-)80
10. Net factor income from abroad	(-)10
11. Net exports	(-)20
12. Net indirect taxes	80

Ans: GNP FC by Income method
GNP FC = 4 + 3 + 5 + 8 + 10 + 7
800 + 400 +250 + 150 + (-10) + 60
GNP FC = 1650 crores
GNP FC by Expenditure Method
GNP FC = 1 + 2 + 6 + 10 + 11 -12 + 7
= 1000 + 200 + 500 + (-10) + (-20) -80 + 60
= 1700 -110 + 60
GNP FC = 1650 crores

11. CALCULATE PRIVATE INCOME AND PERSONAL DISPOSABLE INCOME FROM THE FOLLOWING DATA

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	Rupees in crores
1. National income	5050
2. Income from property and entrepreneurship to gov. administrative department	500
3. Saving of non-department public enterprises	100
4. Corporation tax	80
5. Current transfer from govt: administrative depart	200
6. Net factor income from abroad	-50
7. Direct personal tax	150
8. Indirect taxes	220
9. Current transfer from Raw	80
10. Saving of private corporate sector	500

Ans: Private Income = 1 – 2- 3 + 5 + 9

5050 – 500 – 100 + 200 + 80

5430 – 500

Private Income = 4930 crores

PDI = Private Income – 4 -10 -7

4930 -80 -500 -150

PDI = 4200 crores

12. Calculate private income

1. Income from domestic product accruing to private sector	250
2. Net current transfer from raw	40
3Net current transfer from govt: administrative dept	10
4. National debt interest	20
5. Net factor income from abroad	05

Ans: Private Income = 1 + 2+ 3 + 4 + 5

250 + 40 + 10 + 20 + 5

= 325 crores

13. CALCULATE NET NATIONAL DISPOSABLE INCOME AND PERSONAL INCOME FROM THE FOLLOWING DATA

	Rs. In crores
1. Net indirect taxes	90
2. Compensation of employers	400
3. Personal taxes	100
4. Operating surplus	200
5. Corporation profit tax	80
6. Mixed income of self-employed	500
7. National debt interest	70
8. Saving of non-departmental enterprises	40
9. Current transfer from govt	60
10. Income from property and entrepreneurship to govt administrative Department	30
11. Net current transfer from RAW	20
12. Net factor income from abroad	-50
13. saving of private corporate sector	20

Ans: NDPfc = (2) + (4) + (6)

400 + 200 + 500 = 1100 crores

NNDI = NDP fc + (12) + (1) + (11)

=1100 + (-50) + 90 + 20

NNDI = 1210 – 50

= 1160 crores

Personal Income

Ans:

Private Income = NDP $_{FC}$ –(8) – (10)

1160 -40 – 30=1090 crores

1090 + 7 + 9 +11 +12

1090 + 70 + 60 + 20 + (-50) = 1190 crores

Personal income = Private Income – Corporation Profit Tax – Savings of private corporate sectors

1190 – 80 – 20= 1090 crores

14. CALCULATE FROM THE FOLLOWING DATA (A) PRIVATE INCOME (B) PERSONAL INCOME (C) PERSONAL DISPOSABLE INCOME.

	RS IN CRORES
1. Factor income from NDP accruing to private sector	300
2. Income from entrepreneurship and property	
3. Accruing to govt administrative departmental	70
4. Savings of non-departmental enterprises	60
5. Factor income from abroad	20
6. Consumption of fixed capital	35
7. Current transfer from rest of the world	15
8. Corporation taxes	25
9. Factor income to abroad	30
10. Current transfer from govt governmental admi depart	40
11. Direct taxes paid by house hold	20
12. National dept interest	05
13. saving of private corporate sector	80

Ans Private Income = 1 + 5 + 7 -9 + 10 + 12

300 + 20 + 15 -30 + 40 + 05

Private Income = 350 crores

Personal Income = Private income – 8 – 13

= 350 – 25 – 80

Personal Income = 245 crores

PDI = Personal Income - 11

245 – 20

PDI = 225 crores

15. From the following data, calculate:

(a) Gross national Disposable Income

(b) Private Income

(c) Personal Disposable Income

	(Rs. In Crores)
(1) Net national product at factor cost	700
(2) Indirect taxes	60
(3) Subsidies	10
(4) Consumption of fixed capital	40
(5) Income from property and entrepreneurship Accruing to government administrative departments	50
(6) Current transfers from rest of the world	45
(7) Profits	100
(8) Direct tax paid by households	50
(9) Savings of private corporate sector	60
(10) Saving of non-departmental enterprises	25
(11) Current transfer from govt: administrative departments	70
(12) A factor income abroad	20
(13) Factor income to abroad	30
(14) Corporation tax	35

Ans GNDI = 1 + 2 -3 + 6 + 4

700 + 60 – 10 + 45 + 40= 805 -10 + 40 GNDI = 835 crores

b) Private Income = 1 – 5 -10 + 6 +11

700 – 50 -25 + 45 +70

Private Income = 740 crores

c) PDI = Private Income – 14 – 9 – 8

740 – 35 – 60 – 50

PDI = 594 crores

16. **Calculate Gross National Disposable Income from the following data:**

	(Rs. In Crores)
(1) National income	2000
(2) Net current transfer from rest of the world	200
(3) Consumption of fixed capital	100
(4) Net factor income from abroad	(-)50
(5) Net indirect taxes	250

Ans: GNDI = 1 + 5 + 2 + 3

2000 + 250 + 200 + 100

GNDI = 2550 crores

17. Calculate Net National Disposable Income from the Following Data:

	(Rs. In Crores)
(1) Gross national product at factor cost	800
(2) Net current transfer from rest of the world	50
(3) Net indirect taxes	70
(4) Consumption of fixed capital	60
(5) Net factor income from abroad	(-)10

Ans: NNDI = 1 + 2 + 3 -4

800 + 50 + 70 -60

= 860 crores

NUMERICALS TO BE CALCULATED BY STUDENTS

1. **Calculate Net National Disposable Income From The Following Data:**

	(Rs. In Crores)
(i) Gross domestic product at market price	1,000
(ii) Net factor income from abroad	(-)20
(iii) Net indirect taxes	120
(iv) Consumption of fixed capital	100
(v) Net current transfer from rest of the world	70

2. **Calculate Gross National Disposable Income The Following Data**:

	(Rs. In Crores)
(i) National income (or NNPfc)	800
(ii) Net indirect taxes	100
(iii) Net factor income from abroad	30
(iv) Net current transfer from rest of the world	50
(v) Consumption of fixed capital	70

3. **Calculate Gross National Disposable Income And net National Disposable Income from the Following Data:**

(Rs. In Crores)

(i) Consumption of fixed capital	30
(ii) Net national product at market price	240
(iii) Net Indirect taxes	40
(iv) Net current transfers from rest of the world	(-)20
(v) Net factor income from abroad	(-) 10

4.Find Out GNP_{MP}, NDP_{FC} And Gross National Disposable Income.

	(Rs. In Crores)
(i) National income	520
(ii) Net factor income from abroad	10
(iii) Indirect taxes	40
(iv) Subsidies	10
(v) Consumption of fixed capital	50
(vi) Net current transfer received from abroad	20

5.Calculate NNP_{FC}, net National Disposable Income and Gross National Disposable Income from following data:

	(Rs. In Crores)
(i) GNP_{MP}	1000
(ii) Net Indirect taxes	100
(iii) Net current transfer received from rest of the world	(-)20
(iv) Subsidies	25
(v) Consumption of fixed capital	50
(vi) Net factor income paid to the rest of the world	(-)10

6. **Find Out (a) Personal Income and (b) Personal Disposable Income from following data:**

	(Rs. In Crores)
1.Private income	48,800
(ii) Interest on national debit	1,000
(iii) Net factor income from abroad	300
(iv) Corporate Savings	800
(v)) Corporation tax	210
(vi) Personal income tax	540

7.From The Following Data Calculate:
Private Income and (b) Personal disposable income.

	(Rs. In Crores)
(i) Income from Domestic product accruing to the private sector	4,000
(ii) Savings of non-departmental public enterprises	200
(iii) Current transfer from government administrative departments	150
(iv) Savings of private corporate sector	400
(v) Current transfers from rest of the world	50
(vi) Net factor income from abroad	(-) 4
(vii) Corporation tax	60
(viii) Direct Personal tax	140

8. **Calculate (a) Personal Income (b) Personal Disposable Income from following data**:

(Rs. In Crores)

(i) Income from property and entrepreneurship accruing to Government administrative department	500
(ii) Savings of non-departmental public enterprises	100
(iii) Corporation tax	80
(iv) Income from Domestic product accruing to the private sector	4,500
(v) Current transfer from government administrative departments	200
(vi) Net factor income from abroad	(-)50
(vii) Direct Personal tax	150
(viii) Indirect taxes	220
(ix) Current transfers from rest of the world	80
(x) Savings of private corporate sector	500

9.**From the following data calculate National Income by (i) Income method and (ii) Expenditure method.**

	(Rs. In Crores)
(i) Compensation of employees	1,200
(ii) Net factor income from abroad	(-)20
(iii) Net indirect taxes	120
(iv) Profit	800
(v) Private final consumption expenditure	2,000
(vi) Net domestic capital formation	770
(vii) Consumption of fixed capital	130
(viii) Rent	400
(ix) Interest	620
(x) Mixed income of self- employed	700
(xi) Net exports	(-)30
(xii) Government final consumption expenditure	1,100

10.**From the following data, calculate Gross national product at Market Price by (i) Income method. (ii) Expenditure method:**

	(Rs. In Crores)
(i) Mixed income of self-employed	400
(ii) Compensation of employees	500
(iii) Private final consumption expenditure	900
(iv) Net factor income from abroad	(-)20
(v) Net indirect taxes	100
(vi) Consumption of fixed capital	120
(vii) Net domestic capital formation	280
(viii) Net exports	(-)30
(ix) Profits	350
(x) Rent	100
(xi) Interest	150
(xii) Government final consumption expenditure	450

11.**Calculate (a) National Income and (b) Gross National Disposable Income from the following data**

	(Rs. In Crores)
(i) Net factor income from abroad	(-)20
(ii) Government final consumption expenditure	200

(iii) Subsidies	10
(iv) Private final consumption expenditure	800
(v) Net current transfers from the rest of the world	30
(vi) Net domestic fixed capital formation	100
(vii) Indirect taxes	80
(viii) Consumption of fixed capital	40
(ix) Change in stock	(-)10
(x) Net exports	(-)50

12.From the following data, calculate 'gross value added at factor cost'

	(Rs. In Crores)
(i) Sales	500
(ii) Change in stock	30
(iii) Subsidies	40
(iv) Consumption of fixed capital	60
(v) Purchases of intermediate products	350
(vi) Profit	70

13.**From the following data, calculate:**
(a) National income, and (b) Personal disposable income

	(Rs. In Crores)
(i) Compensation of employees	1,200'
(ii) Rent	400
(iii) Profit	800
(iv) Consumption of fixed capital	300
(v) Mixed income of self- employed	1,000
(vi) private income	3,600
(vii) net factor income from abroad	(-)50
(viii) net trained earnings of private enterprises	200
(ix)interest	250
(x) net indirect taxes	350
(xi) net exports	(-)60
(xii) direct taxes paid by households	150
(xiii) corporation tax	100

14. **From the following data calculate national income by**
(a) Income method and (b) Expenditure method.

	(Rs. In cores)
(i) Private final consumption expenditure	2,000
(ii) Net capital formation	400
(iii) Change in stock	50
(iv) Compensation of employees	1,900
(v) Rent	200
(vi) Interest	150
(vii) operating surplus	720
(viii) Net indirect tax	400
(x) Employers' contribution to social security schemes	100
(xi) Net exports	20
(xii) Net factor income from aboard	(-)20

(xii) Government final consumption expenditure	600
(xvi) Consumption of fixed capital	100

15. Find gross national product at market price by income method and expenditure method.

	ITEMS	Rs. CRORES
a.	Mixed income of the self-employed	400
b.	Compensation of employees	500
c.	Private final consumption expenditure	900
d.	Net factor income from abroad	(-)20
e.	Net indirect taxes	100
f.	Consumption of fixed capital	20
g.	Net domestic capital formation	280
h.	Net exports	(--) 30
i.	Rent	100
j.	Interest	150
k.	Government final consumption expenditure	450

FREQUENTLY ASKED CBSE BOARD QUESTIONS

1. Give two examples of macro economics (1)
2. Differentiate between micro and macroeconomics (3)
3. Distinguish between intermediate goods and final goods. (3)
4. Distinguish between domestic product and national product (3)
5. What do you understand by net factor income from abroad? Explain (3)
6. While estimating national income how will you treat the following? Give reasons for your answer (4)
   a) Imputed rent of self occupied houses.
   b) Interest received on debentures
   c) Financial help received by flood victims
   d) Capital gains
7. Distinguish between transfer payments and factor payments. Give an example of each. (4)
8. From the following data calculate national income by income method and expenditure method (6)

		Rs in Crores
a)	Interests	150
b)	Rent	250
c)	Govt. final consumption expenditure	600
d)	Private final consumption expenditure	1200
e)	Profit	640
f)	Compensation of employees	1000
g)	Net factor income from abroad	30
h)	Net indirect taxes	60
i)	Net exports	(-) 40
j)	Depreciation	50
k)	Net domestic capital formation	340

UNIT – VII: MONEY AND BANKING

MEANING OF MONEY: Money is anything which is generally accepted as medium of exchange, measure of value, store of value and as means of standard of deferred payment.

FUNCTIONS OF MONEY: Functions of money can be classified into Primary and Secondary

Primary/Basic functions:-

i) Medium of Exchange: - It can be used in making payments for all transactions of goods and services.

ii) Measure /Unit of value: - It helps in measuring the value of goods and services. The value is usually called as price. After knowing the value of goods in single unit (price) exchanges become easy.

Secondary functions:-

i) Standard of deferred payments: Deferred payments referred to those payments which are to be made in near future.

   Money acts as a standard deferred payment due to the following reasons:

   a) Value of money remains more or less constant compared to other commodities.
   b) Money has the merit of general acceptability.
   c) Money is more durable compare to other commodity.

ii) Store of value: Money can be stored and does not lose value

   Money acts as a store of value due to the following reasons:

   a) It is easy and economical to store.
   b) Money has the merit of general acceptability.
   c) Value of money remains relatively constant

MONEY HAS OVERCOME THE DRAW BACKS OF BARTER SYSTEM:

1. Medium of Exchange: Money has removed the major difficulty of the double coincidence of wants.
2. Measure of value: Money has become measuring rod to measure the value of goods and services and is expressed in terms of price.
3. Store of value: It is very convenient, easy and economical to store the value and has got general acceptability which was lacking in the barter system.

4. Standard of deferred payments: Money has simplified the borrowing and lending of operations which were difficult under barter system. It also encourages capital formation.

MONEY SUPPLY: refers to total volume of money held by public at a particular point of time in an economy.

M1=currency held by public + Demand deposits + other deposits with Reserve Bank of India.

M2=M1+saving deposits with post office saving bank

M3=M1+net time deposit with the bank

M4=M3 + total deposits with post office saving bank excluding national saving certificate

HIGH POWERED MONEY:

Refers to, currency with the public (notes +coins) and cash reserve of banks.

MONEY CREATION/DEPOSIT CREATION/CREDIT CREATION BY COMMERCIAL BANK

Let us understand the process of credit creation with the following example.

Suppose there is an initial deposit of Rs. 1000 and L.R.R. is 20% i.e., the banks have to keep Rs. 200 and lend Rs. 800/-. All the transactions are routed through banks. The borrower withdraws his Rs. 800/- for making payments which are routed through banks in the form of deposits account.

The Bank receives Rs. 800/- as deposit and keeps 20% of Rs.800/- i.e., Rs.160/- and lends Rs.640/- . Again the borrower uses this for payment which flows back into the banks thereby increasing the flow of deposits.

	Deposits (in Rs.)	**Loans (in Rs.)**	**Cash Reserve Ratio (20%)**
Initial deposit	1000	800	200
First round	800	640	160
Second round	640	512	128
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Total	5000	4000	1000

MONEY MULTIPLIER:

Money Multiplier = 1/LRR. In the above example LRR is 20% i.e., 0.2, so money multiplier is equal to 1/0.2=5.

Why only a fraction of deposits is kept as Cash Reserve?

a) All depositors do not withdraw the money at the same time.
b) There is constant flow of new deposits into the banks.

CENTRAL BANK

MEANING: An apex body that controls, operates, regulates and directs the entire banking and monetary structure of the country.

FUNCTIONS OF CENTRAL BANK:

i) Currency authority or bank of issue: Central bank is a sole authority to issue currency in the country. Central Bank is obliged to back the currency with assets of equal value (usually gold coins, gold bullions, foreign securities etc.,)

   Advantages of sole authority of note issue:
   a) Uniformity in note circulation
   b) Better supervision and control
   c) It is easy to control credit
   d) Ensures public faith
   e) Stabilization of internal and external value of currency

ii) Banker to the Government: As a banker it carries out all banking business of the Government and maintains current account for keeping cash balances of the government. Accepts receipts and makes payments for the government. It also gives loans and Advances to the government.

iii) Banker's bank and supervisor: Acts as a banker to other banks in the country—
   a) Custodian of cash reserves:- Commercial banks must keep a certain proportion of cash reserves with the central bank (CRR)
   b) Lender of last resort: - When commercial banks fail to need their financial requirements from other sources, they approach Central Bank which gives loans and advances.
   c) Clearing house: - Since the Central Bank holds the cash reserves of commercial banks it is easier and more convenient to act as clearing house of commercial banks.

iv) Controller of money supply and credit: - Central Bank or RBI plays an important role during the times of economic fluctuations. It influences the money supply through

quantitative and qualitative instruments. Former refers to the volume of credit and the latter refers to regulate the direction of credit.

v) Custodian of foreign exchange reserves.

Another important function of Central Bank is the custodian of foreign exchange reserves. Central Bank acts as custodian of country's stock of gold and foreign exchange reserves. It helps in stabilizing the external value of money and maintaining favorable balance of payments in the economy.

QUANTITATIVE INSTRUMENTS:

i) **Bank Rate policy**: - It refers to the rate at which the central bank lends money to commercial banks as a lender of the last resort.

Central Bank increases the bank rate during inflation (excess demand) and reduces the same in times of deflation (deficient demand)

ii) **Open Market Operations:** It refers to the buying and selling of securities by the Central Bank from/ to the public and commercial banks.

It sells government securities during inflation/excess demand and buys the securities during deflation/deficient demand.

iii) **Legal Reserve Ratio**: R.B.I. can influence the credit creation power of commercial banks by making changes in CRR and SLR

Cash Reserve Ratio (CRR): It refers to the minimum percentage of net demand and time liabilities to be kept by commercial banks with central bank.

Reserve Bank increases CRR during inflation and decreases the same during deflation

Statutory Liquidity Ratio (SLR): It refers to minimum percentage of net demand and time liabilities which commercial banks required to maintain with themselves.

SLR is increased during inflation or excess demand and decreased during deflation or deficient demand.

QUALITATIVE INSTRUMENTS:

1. *Margin Requirements*: It is the difference between the amount of loan and market value of the security offered by the borrower against the loan.

   Margin requirements are increased during inflation and decreased during deflation.

2. *Moral suasion*: It is a combination of persuasion and pressure that Central Bank applies on other banks in order to get them act in a manner in line with its policy.

3. *Selective credit controls*: Central Bank gives direction to other banks to give or not to give credit for certain purposes to particular sectors.

SHORT AND LONG ANSWER QUESTIONS

1. Define Central Bank.
2. Give the meaning of money.
3. Discuss the functions of money.
4. Describe how money over comes the problems of barter system?
5. What are the measures of money supply?
6. What do you mean by High powered money?
7. Describe the process of money creation or credit creation by commercial banks.
8. Why only a fraction of deposits is kept as Cash Reserves?
9. Discuss the functions of Central Bank.
10. Bring out the role of Central Bank as the controller of money supply or credit
11. Explain the various qualitative and quantitative instruments used by the central bank in controlling the money supply during the times of a) excess demand/inflation b) deficient demand/deflation.

HOTS

1. Calculate the value money multiplier and the total deposit created if initial deposit is of Rs. 500 crores and LRR is 10%.

Ans: Money multiplier = 1/LRR which is equal to 1/0.1=10

Initial deposit Rs. 500 crores

Total deposit = Initial deposit x money multiplier

= 500 x 10 = 5000 crores.

2. If total deposits created by commercial banks are Rs.12000, LRR is 25% calculate initial deposit.

Ans: Money multiplier = 1/LRR = 1/.25 = 4

Initial deposit = Total deposit / money multiplier = 12000/4 = 3000

3. Calculate LRR, if initial deposit of Rs. 200 cores lead to creation of total deposits of Rs. 1600 cores.

Ans: Money multiplier = Total deposits/Initial deposits = 1600/200=8

Money multiplier = 1/LRR = 8=1/LRR.

LRR = 1.25 or 12.5

FREQUENTLY ASKED CBSE BOARD QUESTIONS

One Mark Questions (1M)

1. Define money.
2. M1 = …………………………………………
3. What is meant by barter system?
4. Write two drawbacks of barter exchange.
5. List out two main functions of money.
6. Define commercial bank.
7. Give the meaning of central bank.
8. What do you mean by credit creation by commercial banks.
9. Define bank rate.
10. Define cash reserve ratio.
11. Give the meaning of statutory liquidity ratio.
12. What is meant by open market operations (OMO)?
13. Define money supply.
14. Write one difference between commercial bank and central bank.
15. Mention two important functions of central bank.

Three Marks Questions (3M)

1. Explain briefly any two main functions of money.
2. How does the central bank apply bank rate as a measure of credit control?
3. What are the components of M1?
4. State any THREE functions of central bank. Explain any one.
5. Explain the "lender of last resort" function of central bank.
6. What is money multiplier?
7. Explain briefly any three drawbacks of barter system
8. Explain the open market operations method of credit control used by a central bank.

Four Marks Questions (4 M)

1. Distinguish between commercial banks and central bank.
2. Explain how money solves the drawbacks of barter exchange.
3. What is money multiplier? How will you determine its value?
4. Briefly explain any TWO quantitative measures of credit control by the central bank.
5. Explain briefly the credit creation by commercial banks with the help of an example.

UNIT 2: CONSUMER EQUILIBRIUM AND DEMAND

KEY CONCEPTS

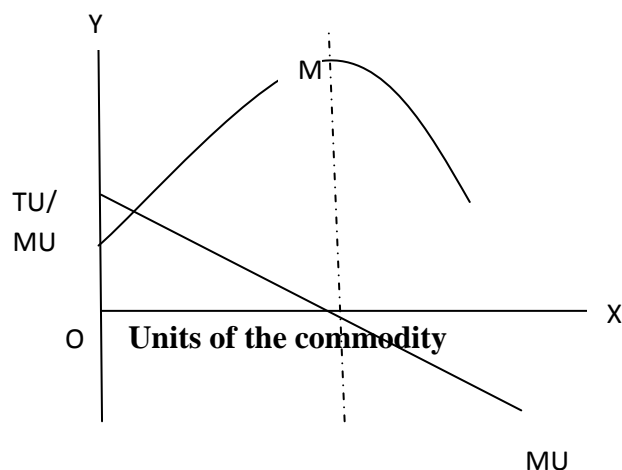
1. UTILITY
   A) MARGINAL UTILITY
   B) LAW OF DIMINISHING MARGINAL UTILITY
2. CONDITIONS OF CONSUMER'S EQUILIBRIUM
3. INDIFFERENCE CURVE ANALYSIS
4. THE CONSUMER'S BUDGET
   A) BUDGET SET
   B) BUDGET LINE
5. PREFERENCES OF THE CONSUMER
   A) INDIFFERENCE CURVE
   B) INDIFFERENCE MAP
6. CONDITIONS OF CONSUMER'S EQUILIBRIUM
7. DEMAND
   A) INDIVIDUAL DEMAND
   B) MARKET DEMAND
   C) DEMAND SCHEDULE
   D) DEMAND CURVE
8. DETERMINANTS OF DEMAND
9. MOVEMENT ALONG THE DEMAND CURVE
   A) EXTENSION
   B) CONTRACTION
10. SHIFT IN THE DEMAND CURVE
    A) INCREASE IN DEMAND
    B) DECREASE IN DEMAND
11. MEASUREMENT OF PRICE ELASTICITY OF DEMAND
    A) TOTAL EXPENDITURE METHOD
    B) PROPORTIONATE METHOD
    C) GEOMETRIC METHOD
12. FACTORS AFFECTING PRICE – ELASTICITY OF DEMAND

Utility:- The satisfaction which a consumer gets from using/consuming a good or service.

Total Utility:- The total satisfaction a consumer gets from a given commodity /service.

(or)

Sum of marginal utility is known as total utility

Marginal Utility:- An addition made to total utility by consuming an extra unit of commodity. Sum of marginal utilities derived from various goods is known as total utility.

Graph -1: The relationship between TU and MU

Law of Diminishing Marginal Utility:-
It states that as the consumer consumes more and more units of a commodity , the marginal utility derived from each successive units goes on diminishing.

Demand for a commodity refers to the quantity of a commodity which a consumer is willing to buy at a given price in a given period of time.

Consumer Equilibrium:
Refers to a situation when he spends his given income on purchase of a commodity (or commodities) in such a way that yields him maximum satisfaction.

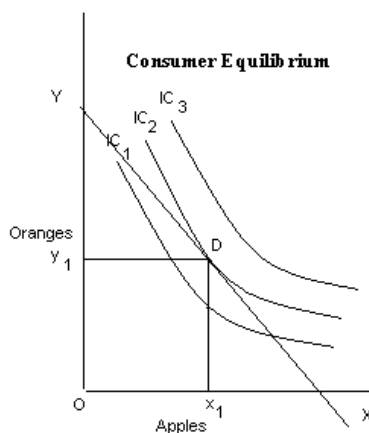
Condition of equilibrium:
MU in terms of money = Price.
MU of product / MU of a Rupee.= Price

Consumer Equilibrium through Indifference Curve:-
Budget Set :- Set of bundles (combination of goods) available to consumer
Budget line:- It refers to all combinations of goods which a consumer can buy with his entire income and price of two goods.
Equation of Budget line: - $P_1 X_1 + P_2 X_2 = M$

Indifference Curve: -
The combination of two goods which gives consumer same level of satisfaction
Properties of IC :- 1. It slopes downwards from left to right
2. It is always convex to the origin due to falling of Marginal Rate of Substitution (MRS)
3.Higher IC always gives higher satisfaction
4.Two IC never intersect each other.

Indifference Map:- Group of indifference curves that gives different levels of satisfaction to the consumer.

Marginal Rate of Substitution (MRS):- It is the rate at which a consumer is willing to give up one good to get another good.

Consumer Equilibrium:-
At a point where budget line is tangent to the indifference curve, MRS = P_X / P_Y ,
i.e., Marginal rate of substitution = ratio of prices of two goods.

DEMAND

Demand:- Quantity of the commodity that a consumer is able and willing to purchase in a given period and at a given price.

Demand Schedule:- It is a tabular representation which shows the relationship between price of the commodity and quantity purchased.

Demand Curve:- It is a graphical representation of demand schedule.

Individual Demand:- Demand by an individual consumer.

Factors Affecting Individual Demand For a Commodity/Determinants of Demand:-

1. Price of the commodity itself
2. Income of the consumer
3. Price of related goods
4. Taste and Preference
5. Expectations of future price change

Demand Function:- Dx = f(Px, Y, Pr, T)

Substitute Goods:- Increase in the price of one good causes increase in demand for other good. E.g., tea and Coffee

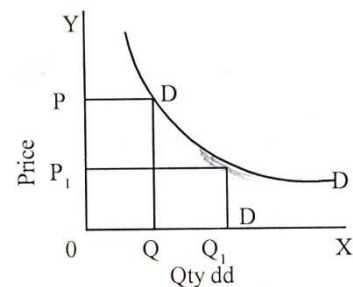
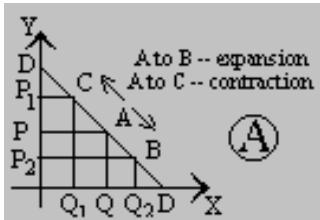
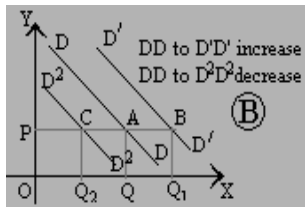
Complementary Goods:- Increase in the price of one good causes decrease in demand for other good. E.g:- Petrol and Car

Normal Good:- Goods which are having positive relation with income. It means when income rises, demand for normal goods also rises.

Inferior Goods:- Goods which are having negative relation with income. It means less demand at higher income and vice versa.

Law of Demand:- Other things remains constant, demand of a good falls with rise in price and vice versa .

Demand Schedule:-

PRICE (Rs.)	DEMAND (units)
1	100
2	80
3	60
4	40
5	20

Changes in Demand:-

They are of two types:

1) Change in Quantity Demanded (Movement along the same demand curve)
2) Change in Demand (Shifts in demand)

1) **Change in Quantity Demanded: -**
Demand changes due to change in price of the commodity alone, other factors remain constant; are of two types;

A) Expansion of demand : More demand at a lower price
B) Contraction of demand : Less demand at a higher price

Change in Quantity Demanded	Change in Demand
Due to price change Movement will takes place Extension and contraction Diagram	Due to other than price change Shifting will takes place Increase and decrease Diagram

2) **Change in demand:-**

Demand changes due to change in factors other than price of the commodity, are of two types:

A) **Increase in demand**:- more demand due to change in other factors, price remaining constant.
B) **Decrease in demand**:- less demand due to change in other factors, price remaining constant.

<u>Causes of Increase in Demand:-</u>

1. Increase in Income.
2. Increase/ favorable change in taste and preference.
3. Rise in price of substitute good.
4. Fall in price of complementary good.

Note: Increase in income causes increase in demand for normal good

<u>Causes of Decrease in Demand:</u>

1. Decrease in Income.
2. Unfavorable/Decrease in taste and preference
3. Decrease in price of substitute good.
4. Rise in price of complementary good.

Note: Decrease in income causes Decrease in demand for normal good

<u>Price Elasticity of Demand (Ed)</u>:

Refers to the degree of responsiveness of quantity demanded to change in its price.

Ed. = Percentage change in quantity demanded/ Percentage change in price

Ed. = $P/q \times \Delta q/\Delta p$

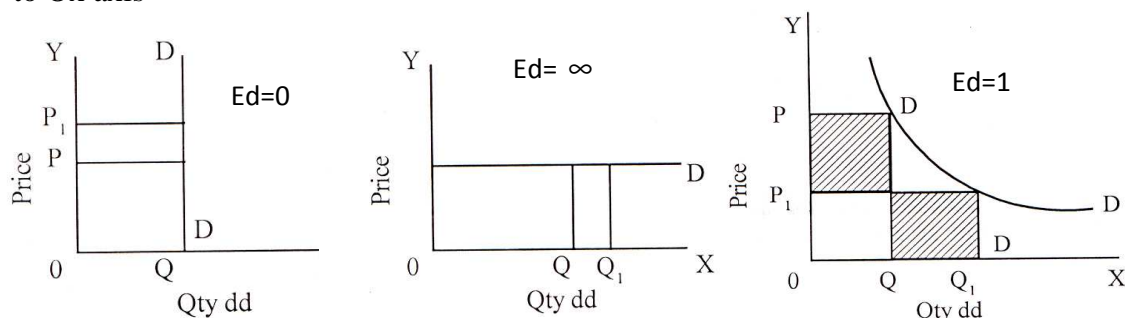
P = Original price

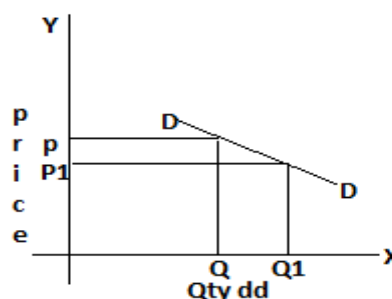
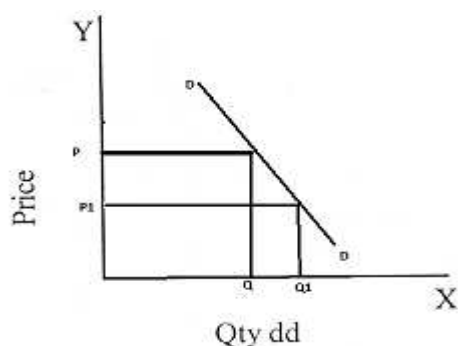
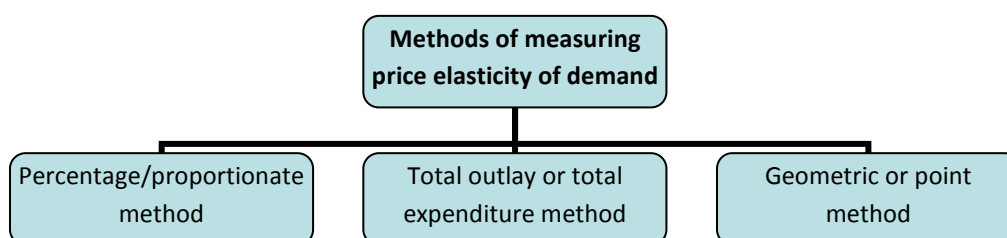
Q = Original quantity

Δ = Change

Q. Explain the five degrees of elasticity of demand?

Ans.

1. **Perfectly inelastic demand:** - Even with change in price, there is no change in the quantity demanded, the demand is said to be perfectly inelastic Ed =0. The demand curve is parallel to OY axis.
2. **Perfectly elastic demand: -** Even with no change in price there is a great change in qty. Demanded, then the demand is said to be perfectly elastic. The demand curve is parallel to Ox axis

decrease in price, there is unit increase or decrease in quantity demanded. The demand curve resembles a rectangular hyperbola.

4. **Relatively less elastic:** With a unit increase in price, the quantity demanded is proportionately less, then demand is said to be less elastic
5. **Relatively more elastic:** With a unit increase in the price, there is proportionately more increase in the quantity demanded. The demand is said to be more elastic.

Methods of Measuring Price Elasticity of Demand:-

Proportionate / Percentage Method:

$$E_d = \frac{\text{\% change in Quantity demanded}}{\text{\% change in price}} = \frac{\Delta Q/Q0 \times 100}{\Delta P/P0 \times 100}$$

OR

$$= \Delta Q/\Delta P \times P/Q$$

Q. The Price of ice cream is Rs.20 per cup and demand is for 200 cup. If the price of ice cream falls to Rs.15 demand increases to 300 cups. Calculate elasticity of demand.

Sol.: $P = 20; P_1 = 15 ; \Delta P = 5$

$Q= 200; Q_1 = 300; \Delta Q = 100$

$$Ed = \frac{100}{5} \times \frac{20}{200} = 2$$

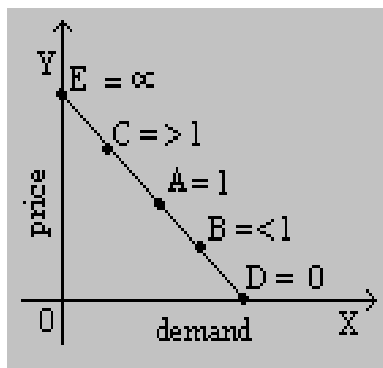
Total Outlay Method (Expenditure Method)

If with the fall in price, total outlay increases elasticity of demand is greater than one, if total outlay remain constant, elasticity is equal to one and if the total outlay decreases elasticity is less than one.

Situa-tion	Price of Commodity (Rs)	Quantity (Kg)	Total Expenditure (Rs)	Effect on Total Expenditures	Elasticity of Demand
A	2 1	4 8	8 8	Same Total Expenditure	Unitary Elastic E_d=1
B	2 1	4 10	8 10	Total Expenditure increases	Greater than unitary $E_d > 1$
C	2 1	3 4	6 4	Total Expenditure decreases	Less than unitary $E_d < 1$

Geometric / Point Method: -

This measures the elasticity of demand at different points on the same demand Curve.

$$E_d = \frac{\text{lower segment of the demand curve}}{\text{Upper segment of the demand curve}}$$

ONE MARK QUESTIONS AND ANSWERS

1. **What do you mean by utility?**

Ans :- Utility is the **want satisfying power** of a commodity.

2. **How is total utility derived from marginal utility?**

Ans :- Total utility is the **sum total of marginal utilities** of various units of a commodity.

TUn= MU1+MU2+MU3------ +MUn

3. **State the law of equi-marginal utility.**

Ans :- It states that a consumer gets maximum satisfaction when the ratio of the marginal utilities of two goods and their prices is equal i.e., MUx / Px = MUy / Py

4. **What will you say about MU when TU is maximum?**

Ans :- MU is zero when TU is maximum

5. **Give the reason behind a convex indifference curve.**

Ans :- Diminishing marginal rate of substitution.

HOTS QUESTIONS

1. **Give the formula for calculating the slope of the budget line.**

Ans :- It is equal to the ratio of the prices of the two commodities , i.e., Px / Py

2. **Suppose a consumer's preferences are monotonic. What can you say about his preference ranking over the bundles (10,10),(10,9) and (9,9)?**

Ans :- Consumer will monotonically prefer bundle (10,10) to (10,9) and (9,9) and also prefer bundle (10,9) to (9,9)

3. **A rise in the income of the consumer leads to a fall in the demand for commodity ‘x’. What type of good is commodity ‘x’?**

Ans :- Inferior good

4. **What do you mean by substitute and complementary goods? Give two examples each.**

Ans :- Substitute goods are those goods which can be used in place of each other. Ex. Tea and Coffee. Complementary goods are those goods which are used together to satisfy a given want. Ex : Car and petrol.

5. **Mention one factor that causes a leftward shift of the demand curve.**

Ans :- Fall in income of a consumer.

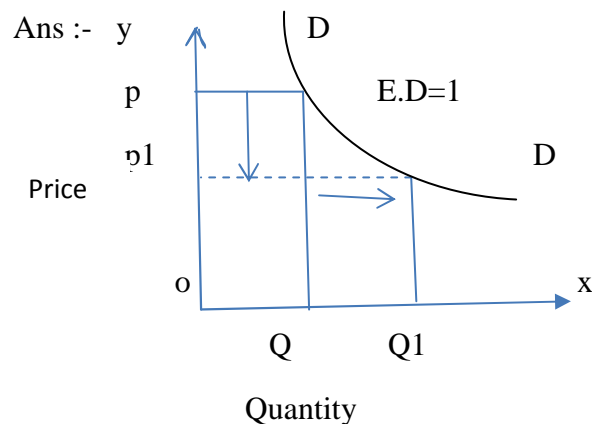
6. **What causes a movement along the demand curve of a commodity?**

Ans :- When the price of a commodity changes and other factors remain constant, there will be movement along the demand curve.

7. **What is demand function?**

Ans: - A demand function shows the functional relationship between the quantity demanded and the factors on which demand depends on.

8. **Draw a demand curve with unitary elasticity.**

Ans :-

9. **Define price elasticity of demand.**

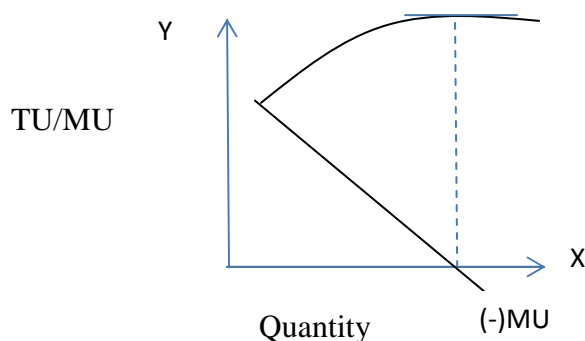
Ans :- It refers to the degree of responsiveness of quantity demanded to change in price.

3 AND 4 MARKS QUESTIONS & ANSWERS

1. Explain the law of Diminishing Marginal Utility with the help of a table and a diagram.

Ans :- The law of diminishing Marginal Utility states that as we consume more and more units of a commodity, the MU derived from the successive units of that commodity goes on decreasing. It is explained with the help of following schedule and diagram.

UNITS	TU	MU
1	8	8
2	14	6
3	18	4
4	20	2
5	20	0
6	18	-2

Diagram:

Relationship between MU and TU:

i) When MU is positive TU rises.

ii) When MU is zero TU is maximum.

iii) When MU is negative, TU falls.

2. **What is meant by consumer's equilibrium? State its conditions in case of two commodities approach.**
   a) **Meaning:** A consumer is to be equilibrium when he is spending his given income on various goods and services to get maximum satisfaction.
   b) Conditions:
      i) MUx / Px = MUy / Py (MUs are equal to their prices)
      ii) PxQx+ PyQy =M
      iii) M (Money spent is equal to income)
3. **What is the difference between cardinal and ordinal utility analysis.**

	Cardinal Utility	**Ordinal Utility**
1	Given by Prof. Alfred Marshall	Given by Prof. J.R. Hicks
2	Utility can be measured numerically	It cannot be measured numerically
3	Unit of measurement is 'utils'	Possible for a consumer to scale his preferences.

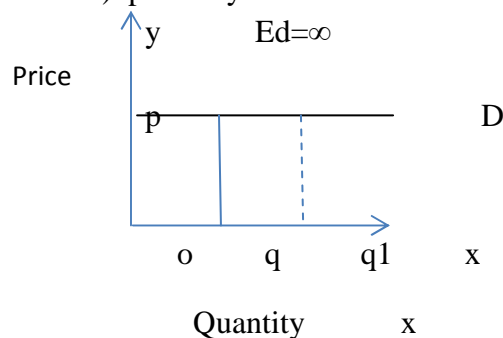
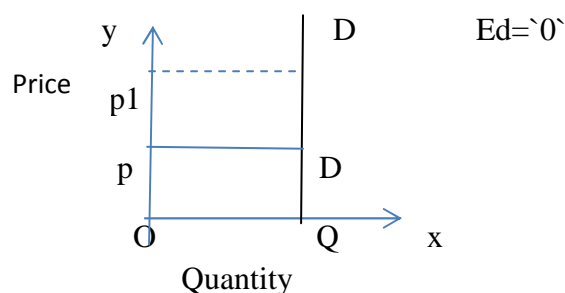
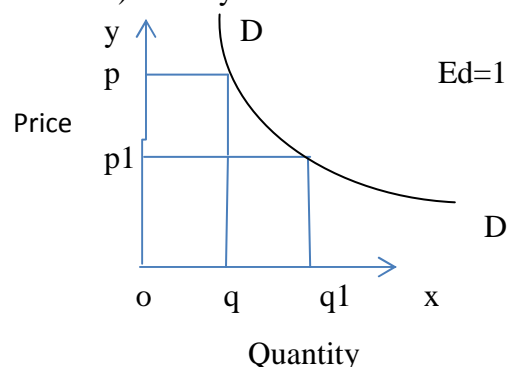
4. **Explain any four determinants of demand for a commodity.**
   Ans :- Following are the three determinants of demand for a commodity.
   i) **Price of the commodity:-** When the price of a commodity increases the demand for that commodity decreases and vice versa.
   ii) **Income of the consumer:-** When the income increases the demand for normal commodity also increases and vice-versa.
   iii) Price of related goods :-

a) In complementary goods demand rises with fall in price of complementary goods.

iv) In substitute goods demand for a commodity falls with a fall in the price of other substitute goods

b) Taste & preference of the consumer: With favourable taste, demand increase and unfavourable taste demand decreases for a commodity.

5. Draw a) perfectly elastic demand curve, b) perfectly inelastic demand curve and c) unitary elastic demand curve.

Ans :- a) perfectly elastic demand

b). Perfectly inelastic demand

c) Unitary elastic demand

6. Explain any four factors that affect elasticity of demand.

Ans :- Following are the factors affecting price elasticity of demand.

1. **Availability of close substitutes**: If close substitutes of product are available, the commodity tends to be more elastic, If there are not available, they tend to be less elastic.
2. **Proportion of total expenditure spent on the product**:If the amount spent on a product constitutes a very small fraction of the total expenditure, then the demand tends to be less elastic of the amount spent is high the elasticity of demand tends to be high.
3. **Habits:** A commodity if it forms an essential part of the individual, the demand tends to be inelastic. It is consumed casually; the demand tends to be elastic
4. **Time Period:** Longer the time period, the more elastic is the demand for any product the shorter the time period, less elastic is the demand for any products

HOTS

1. **Is the demand for the following elastic, moderate elastic, highly elastic? Give reasons.**
   - **(i) Demand for petrol**
   - **(ii) Demand for text books**
   - **(iii)Demand for cars**
   - **(iv)Demand for milk**

Ans :- i) Demand for petrol is moderately elastic , because when the price of the petrol goes up , the consumer will reduce the use of it.

ii)Demand for text books is completely inelastic. In case of text books, even a substantial change in price leaves the demand unaffected.

iii) Demand for cars is elastic. It is a luxury good, when the price of the car rises, the demand for the car comes down.

iv) Demand for milk is elastic, because price of the milk increases then the consumer purchase less quantity milk.

2. What is the relationship between slope and elasticity of a demand curve?

Ans :- The formula of $Ed = \Delta Q / \Delta P * P / Q$

The formula for the slope of the demand curve is, slope = $\Delta P / \Delta Q$

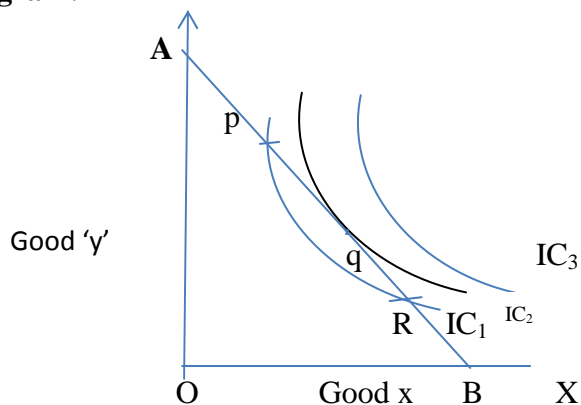
The relationship between slope and elasticity of demand is $Ed= 1/slope * P/Q$

6 MARKS QUESTIONS

3. How is equilibrium achieved with the help of indifference curve analysis?

Ans :-

a) **Definition**:_ In the indifference curve approach, consumer's equilibrium is achieved at the point at which the budget line is tangent to a particular indifference curve. This is the point of maximum satisfaction.

b) Diagram:

c) Explanation of the diagram:

i) 'AB' is the budget line.

ii) It is sure that consumer's equilibrium will lie on some point on 'AB'

iii) Indifference map (set of IC_1, IC_2, IC_3) shows consumers scale of preferences between different combinations of good 'x' and good 'y'

iv) Consumers' equilibrium will achieve where budget line (AB) is tangent to the IC_2.

d) <u>Essential conditions for consumers equilibrium:</u>

i) Budget line must be tangent to indifference curve i.e., MRS xy = Px / Py

ii) Indifference curve must be convex to the origin or MRS xy should decrease.

e) <u>Consumers cannot achieve the following:</u>

i) P and R points on budget line give satisfaction but they lie on lower indifference curve IC_1. Choosing point 'q' puts him on a higher IC which gives more satisfaction.

ii) He cannot move on IC_3, as it is beyond his money income.

4. Explain the factors affecting the market demand of a commodity.

Ans **:- i) <u>Meaning</u>**: Market demand is the aggregates of the quantities demanded by all the consumers in the market at different prices.

ii) <u>Factors affecting market demand :</u>

a) *<u>Price of the commodity:</u>* When the price goes up demand for its falls and vice-versa.

b) *<u>Income of the consumers:</u>* When the income of the consumers goes up the demand for a commodity also goes up.

c) <u>Price of related goods :</u>

- *Complementary goods :*The demand for a commodity rises with a fall in the price of its complementary good (Car and petrol)
- *Substitute goods:* Demand for a commodity falls with a fall in the price of other substitute good (Tea& Coffee).

d) *Tastes and preferences:* Any favourable change in consumers' tastes will lead to increase in market demand and any unfavourable change in consumers tastes will lead to decrease in market demand.

e) *Consumer's group:* More the consumers more will be market demand and vice-versa.

5. Explain the various degrees of price elasticity of demand with the help of diagrams.

Ans:- There are five degrees of price elasticity of demand. They are,

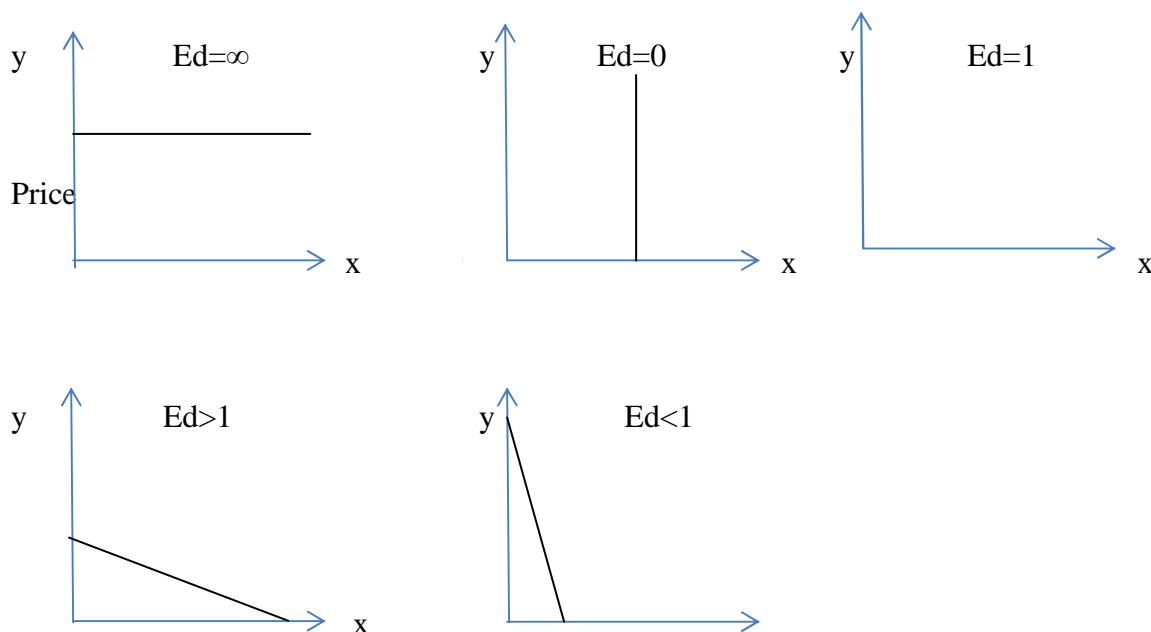
a) *Perfectly elastic demand (Ed=∞):-* a slight or no change in the price leads to infinite changes in the quantity demanded.

b) *Perfectly Inelastic demand (Ed=0) :-* Demand of a commodity does not change at all irrespective of any change in its price.

c) *Unitary elastic demand (Ed=1):-* When the percentage change in demand (%) of a commodity is equal to the percentage change in price.

d) *Greater than unitary elastic demand (Ed>1)*:- When percentage change in demand of a commodity is more than the percentage change in its price.

e) *Less than unitary elastic demand (Ed<1) :-* When percentage change in demand of a commodity is less than the percentage change in its price.

Diagrams

Numerical for practice

6. Derive the total utility schedule from the marginal utility.

Units consumed	Marginal utility
1	12
2	11
3	8
4	6
5	3
6	0

7. A consumer buys 50 units of a good at Rs. 4/- per unit. When its price falls by 25 percent its demand rises to 100 units. Find out the price elasticity of demand.

Ans:- Ed=4

8. Price elasticity of demand for wheat is equal to unity and a household demands 40 Kg of wheat when the price is Rs.1 per kg. At what price will the household demand 36 kg of wheat?

Ans:- The price of wheat rises to Rs.1.10 per kg.

9. The quantity demanded of a commodity at a price of Rs.10 per unit is 40 units. Its price elasticity of demand is -2. Its price falls by Rs.2/- per unit. Calculate its quantity demanded at the new price.

Ans :- 56 units.

FREQUENTLY ASKED QUESTIONS – CBSE BOARD EXAMINATIONS

1. Define Microeconomics.
2. Why an economic problem does arises?
3. What are the central problems of an economy?
4. Define opportunity cost.
5. Define marginal opportunity cost.
6. Distinguish between ‘micro’ and’ macro’ economics.
7. Why PPC is Concave from the origin.
8. Define Marginal Rate of Transformation (MRT)
9. Explain the problem, of ‘what to produce’ and ‘how to produce.’
10. Explain the central problem of how to produce with the help of an example.
11. What is an indifference curve?
12. Define Utility.
13. What is budget set?
14. Define budget line.

15. Define MRS.
16. A consumer consumes only two goods. Explain the conditions of consumer's equilibrium with the help of IC analysis.
17. For a consumer to be in equilibrium, why must MRS be equal to the ratio of price of two goods?
18. What is an indifference map?
19. Explain the law of demand with the help of diagram and schedule.
20. Write three causes of increase / decrease in demand
21. Distinguish between the change in quantity demanded and change in demand.
22. Explain any three factors or determinants of demand.
23. Explain any three factors affecting elasticity of demand
24. Explain the price elasticity of demand through geometric method.
25. Explain the price elasticity of demand through expenditure method
26. Explain the properties of indifference curve.
27. Why can not two indifference curves meet each other?
28. Why is indifference curve convex to origin?
29. Why does higher indifference curve gives higher levels of satisfaction?

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UNIT 3: PRODUCER BEHAVIOUR AND SUPPLY

Production: Combining inputs in order to get the output is production.

Production Function: It is the functional relationship between inputs and output in a given state of technology. Q= f(L,K)

Q is the output, L: Labor, K: Capital

Fixed Factor: The factor whose quantity remains fixed with the level of output.

Variable Factor: Those inputs which change with the level of output.

Capital	Labor	Output
10	1	50
10	2	70
10	3	82
10	4	92
10	5	100

Here units of capital used remain the same for all levels of output. Hence it is the fixed factor.

Amount of labor increases as output increases. Hence it is a variable factor.

PRODUCTION FUNCTION AND TIME PERIOD

1. Production function is a long period production function if all the inputs are varied.
2. Production function is a short period production function if few variable factors are combined with few fixed factors.

CONCEPTS

Time period, can be classified as:

1. Very short period or market period
2. Short period / short run
3. Long period / long run

Market period : is that period where supply / output cannot be altered or changed.

Short period /run : is that period where supply / output can be altered / changed by changing only variable factors of production. In other words fixed factors of production remain fixed.

Long period : is that period where all factors of production are changed to bring about changes in output / supply. No factor is fixed.

Difference between short run & long run :

Basis	Short Run	Long Run
Meaning	Only variable factors are changed	All factors are changed
Price Determination	Demand is active.	Both demand & supply play an important role.
Classification	Factors are classified as fixed & variable.	All factors are variable.

Concept of product :- Refers to volume of goods produced by a firm or an industry during a specific period of time.

Concepts of product:

Total Product- Total quantity of goods produced by a firm / industry during a given period of time with given number of inputs.

Average product = output per unit of variable input.

APP = TPP / units of variable factor

Average product is also known as average physical product.

Marginal product (MP): refers to addition to the total product, when one more unit of variable factor is employed.

$MP_n = TP_n – TP_{n-1}$

MP_n = Marginal product of nth unit of variable factor

TP_n = Total product of n units of variable factor

TP_{n-1}= Total product of (n-1) unit of variable factor.

n=no. of units of variable factor

$MP = \Delta TP / \Delta n$

We derive TP by summing up MP

$TP = \sum MP$

LAW OF VARIABLE PROPORTION OR RETURNS TO A VARIABLE FACTOR

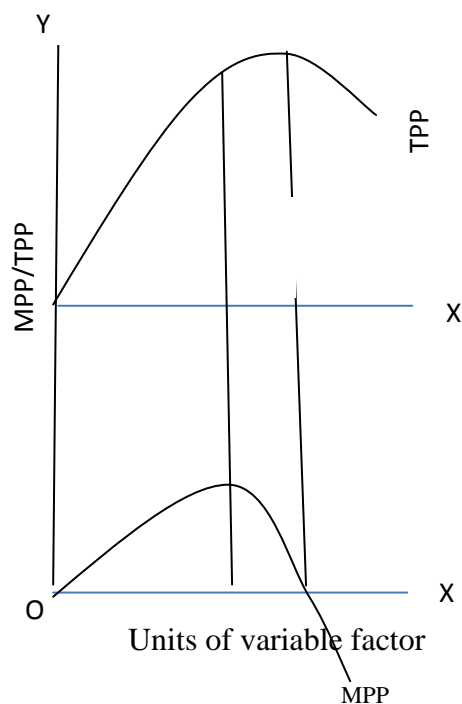
Statement of law of variable proportion: In short period, when only one variable factor is increased, keeping other factors constant, the total product (TP) initially increases at an increasing rate, then increases at a decreasing rate and finally TP decreases.

MPP initially increase then falls but remains positive then 3rd phase becomes negative.

Explanation of law of variable proportion with a schedule and a diagram

Schedule of Law of variable proportion

Fixed factor	Variable factor	Total product	Marginal product	Phase
Land in acres	Labour	Units	Units	
1	0	0	-	I - Increasing returns to a factor
1	1	5	5	
1	2	15	10	
1	3	30	15	
1	4	40	10	II – diminishing returns to a factor
1	5	45	5	
1	6	45	0	
1	7	40	-5	III - Negative returns to a factor

Diagram

Phase I / Stage I / Increasing returns to a factor.

- TPP increases at an increasing rate
- MPP also increases.

Phase II / Stage II / Diminishing returns to a factor

- TPP increases at decreasing rate
- MPP decreases / falls
- This phase ends when MPP is zero & TPP is maximum

Phase III / Stage III / Negative returns to a factor

- TPP diminishes / decreases
- MPP becomes negative.

Reasons for increasing returns to a factor

- Better utilization of fixed factor
- Increase in efficiency of variable factor.
- Optimum combination of factors

Reasons for diminishing returns to a factor

- Indivisibility of factors.
- Imperfect substitutes.

Reasons for negative returns to a factor

- Limitation of fixed factors
- Poor coordination between variable and fixed factor
- Decrease in efficiency of variable factors.

Relation between MPP and TPP

- As long as MPP increases, TPP increases at an increasing rate.
- When MPP decreases, TPP increases diminishing rate.
- When MPP is Zero, TPP is maximum.
- When MPP is negative, TPP starts decreasing.

Short answer questions and Long answer questions

1. What is meant by production?

Ans :- Transformation of Input into Output.

2. What will be MP when TP is maximum?

Ans :- MP will be zero.

3. Define market period, Short run & Long run.

Ans :- Refer time period.

4. **Explain the law of variable proportions with the help of a schedule and a diagram .** 6 Marks

5. **What are the reasons for** 6 Marks
   a) Increasing returns to a factor
   b) Diminishing returns to a factor
   c) Negative returns to a factor

6. Explain the difference between MPP & TPP. 4 Marks

HOTS

Giving reasons, state whether the following statements are true or false :

1. When there are diminishing returns to a factor, total product always decreases.

Ans :- False. When there is diminishing returns to a factor, TPP increases at a decreasing rate.

2. TPP increases only when MPP increases.

Ans :- False. TPP also increases when MPP decreases but remains positive.

3. Increase in TPP always indicates that there are increasing returns to a factor.

Ans :- False. TPP increases even when there are diminishing returns to a factor.

4. When there are diminishing returns to a factor marginal and total products always fall.

Ans: - False. Only MPP falls, not TPP. In case of diminishing returns to a factor, TPP increase at diminishing rate.

5. Calculate MP for the following.

Variable factor unit	0	1	2	3	4	5	6
TP (unit)	0	5	13	23	28	28	24

Ans :- MP: 0 5 8 10 5 0 -4

COST

Cost of production : Expenditure incurred on various inputs to produce goods and services.

Cost function : Functional relationship between cost and output.

C=f(q)

Where f=functional relationship

c= cost of production

q=quantity of product

Money cost : Money expenses incurred by a firm for producing a commodity or service.

Explicit cost : Actual payment made on hired factors of production. For example wages paid to the hired labourers, rent paid for hired accommodation, cost of raw material etc.

Implicit cost : Cost incurred on the self - owned factors of production.

For example, interest on owners capital, rent of own building, salary for the services of entrepreneur etc.

Opportunity cost : is the cost of next best alternative foregone / sacrificed.

Fixed cost : are the cost which are incurred on the fixed factors of production.

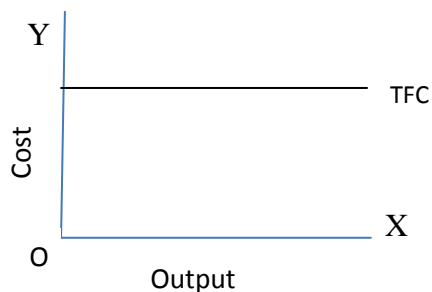
These costs remain fixed whatever may be the scale of output. These costs are present even when the output is zero.

These costs are present in short run but disappear in the long run.

Numerical example of fixed cost

Output	0	1	2	3	4	5
TFC Rs	20	20	20	20	20	20

TFC = Total Fixed Cost

Diagrammatic presentation of TFC

TFC is also called as "overhead cost", "supplementary cost", and "unavoidable cost".

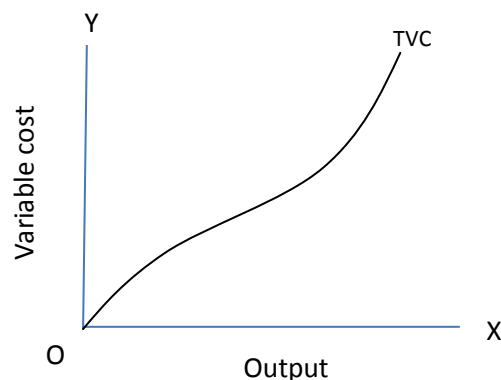
Total Variable Cost : TVC or variable cost – are those costs which vary directly with the variation in the output. These costs are incurred on the variable factors of production.

These costs are also called "prime costs", "Direct cost" or "avoidable cost".

These costs are zero when output is zero.

Numerical example,

Output	0	1	2	3	4	5
TVC	0	10	16	25	38	55

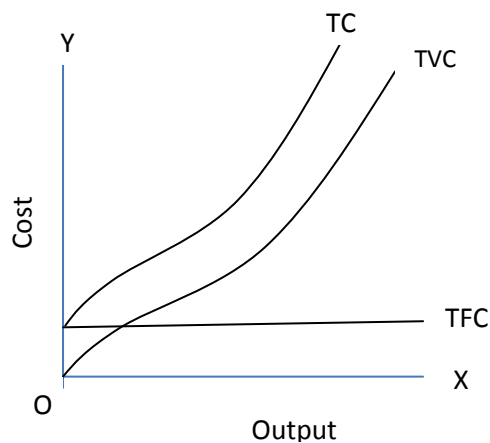
Diagrammatic presentation of TVC

Difference between TVC & TFC

Basis	TVC	TFC
Meaning	Vary with the level of output	Do not vary with the level of output
Time period	Can be changed in short period	Remain fixed in short period
Cost at zero output	Zero	Can never be zero
Factors of production	Cost incurred on all variable factors	Cost incurred on fixed factors of production
Shape of the cost curve	Upward sloping	Parallel to x axis

Total cost : is the total expenditure incurred on the factors and non-factor inputs in the production of goods and services.

It is obtained by summing TFC and TVC at various levels of output.

Relation between TC, TFC and TVC

1. TFC is horizontal to x axis.
2. TC and TVC are S shaped (they rise initially at a decreasing rate, then at a constant rate & finally at an increasing rate) due to law of variable proportions.
3. At zero level of output TC is equal to TFC.
4. TC and TVC curves parallel to each other.

- TC=TFC + TVC
- TFC=TC-TVC
- TVC=TC-TFC

Average cost : are the “cost per unit” of output produced.

Average fixed cost is the per unit fixed cost of production.

AFC = TFC / Q or output

AFC declines with every increase in output. It's a rectangular hyperbola. It goes very close to x axis but never touches the x axis as TFC can never be zero.

Average variable cost is the cost per unit of the variable cost of production.

AVC = TVC / output.
AVC falls with every increase in output initially. Once the optimum level of output is reached AVC starts rising.

Average total cost (ATC) or Average cost (AC) : refers to the per unit total cost of production.

ATC = TC / Output
AC = AFC + AVC

Phases of AC

I phase : When both AFC and AVC fall , AC also fall
II phase : When AFC continue to fall , AVC remaining constant AC falls till it reaches minimum.
III phase : AC rises when rise in AVC is more than fall in AVC.

Important observations of AC , AVC & AFC

1. AC curve always lie above AVC (because AC includes AVC & AFC at all levels of output).
2. AVC reaches its minimum point at an output level lower than that of AC because when AVC is at its minimum AC is still falling because of fall in AFC.
3. As output increases, the gap between AC and AVC curves decreases but they never intersect.

Marginal cost: refers to the addition made to total cost when an additional unit of output is produced.

$MC_n = TC_n - TC_{n-1}$

$MC = \Delta TC / \Delta Q$

Note : MC is not affected by TFC.

Relationship between AC and MC

- Both AC & MC are derived from TC
- Both AC & MC are "U" shaped (Law of variable proportion)
- When AC is falling MC also falls & lies below AC curve.
- When AC is rising MC also rises & lies above AC
- MC cuts AC at its minimum where MC = AC

Important formulae at a glance

1. TFC = TC – TVC or TFC=AFC x output or TFC = TC at 0 output.
2. TVC = TC – TFC or TVC = AVC x output or TVC =∑MC
3. TC = TVC + TFC or TC = AC x output or TC = ∑ MC + TFC

4. $MC_n = TC_n - TC_{n-1}$ or $MC_n = TVC_n - TVC_{n-1}$
5. AFC = TFC / Output or AFC = AC-AVC or ATC – AVC
6. AVC = TVC / Output or AVC = AC-AFC
7. AC = TC / Output or AC=AVC + AFC

Short answers and Long Answer questions:

1. What is cost of production?
2. Define cost function.
3. What are money costs?
4. Distinguish between explicit and implicit costs.
5. How do you define an opportunity cost?
6. What difference you find between fixed and variable costs?
7. Why the fixed cost curve is a horizontal straight line to the X axis?
8. Why variable costs are variable?
9. What is average cost? How do you derive it?
10. Explain AVC, AFC & ATC and explain the relationship between these costs.
11. Explain the relationship TC, TFC & TVC.
12. With a diagram describe the various phases of AC.
13. Bring out the relationship between AC & MC

HOTS

1. Why AFC curve never touches 'x' axis though it lies very close to x axis?

Ans :- Because TFC can never be zero.

2. Why AVC and AFC always lie below AC?

Ans:- AC is the summation of AVC & AFC so AC always lies above AVC & AFC.

3. Why TVC curve start from origin?

Ans:- TVC is zero at zero level of output.

4. When TVC is zero at zero level of output, what happens to TFC or Why TFC is not zero at zero level of output?

Ans:- Fixed cost are to be incurred even at zero level of output.

Revenue

Revenue:- Money received by a firm from the sale of a given output in the market.

Total Revenue: Total sale receipts or receipts from the sale of given output.

TR = Quantity sold × Price (or) output sold × price

Average Revenue: Revenue or Receipt received per unit of output sold.

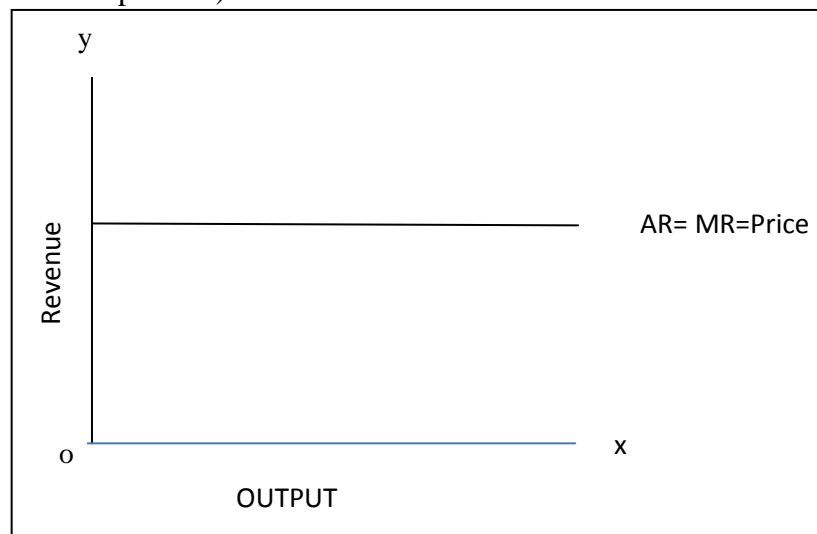
- AR = TR / Output sold
- AR and price are the same.
- TR = Quantity sold × price or output sold × price
- AR = (output / quantity × price) / Output/ quantity
- AR= price

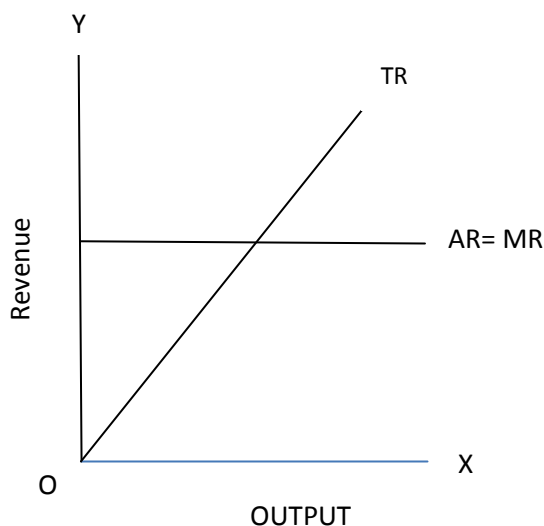
AR and demand curve are the same. Shows the various quantities demanded at various prices.

Marginal Revenue: Additional revenue earned by the seller by selling an additional unit of output.

- $MR_n = TR_n - TR_{n-1}$
- $MR_n = \Delta TR_n / \Delta Q$
- $TR = \sum MR$

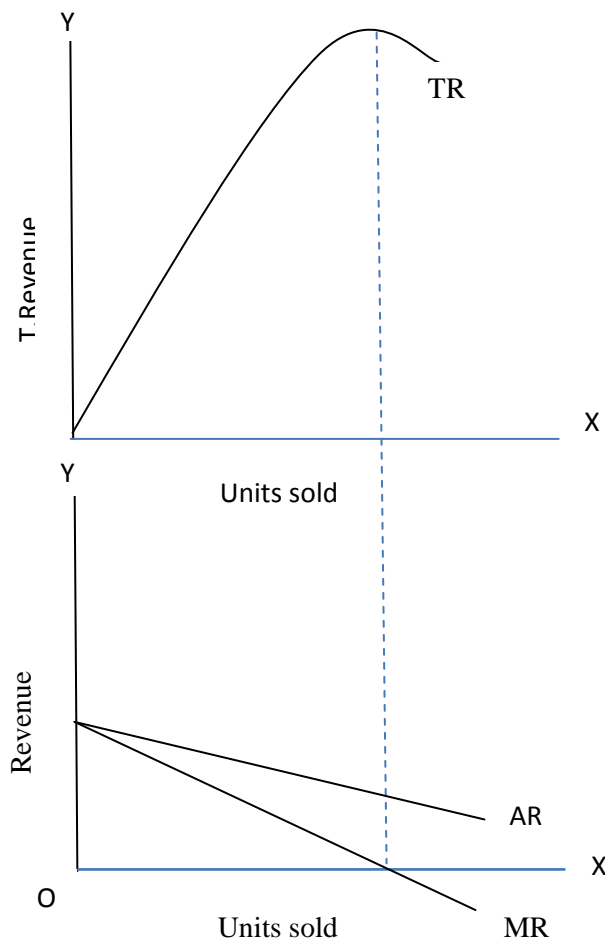
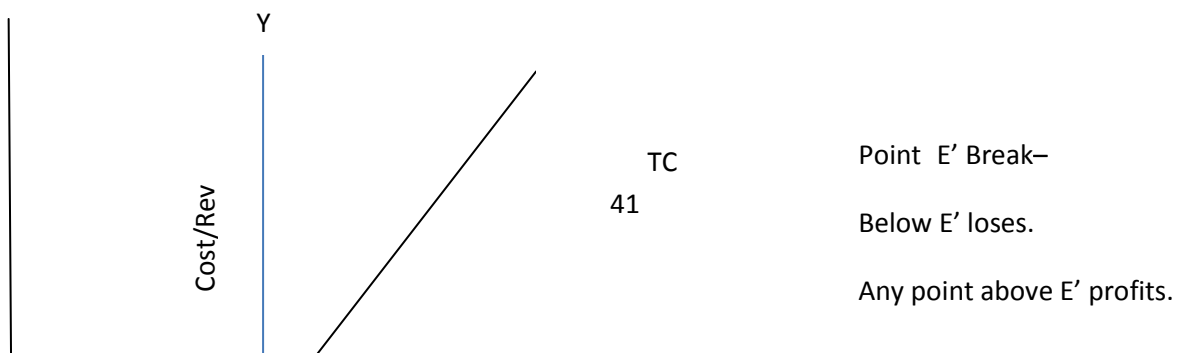
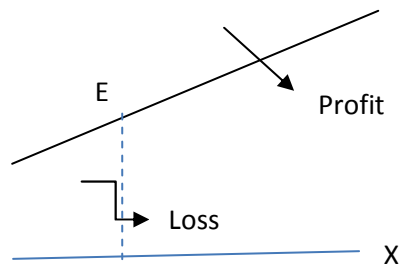
Relationship between AR and MR (when price remains constant or perfect competition)

Under perfect competition, the sellers are price takers. Single price prevails in the market. Since all the goods are homogeneous and are sold at the same price AR = MR. As a result AR and MR curve will be horizontal straight line parallel to OX axis. (When price is constant or perfect competition)

Relation between TR and MR (When price remains constant or in perfect competition)

When there exists single price, the seller can sell any quantity at that price, the total revenue increases at a constant rate (MR is horizontal to X axis)

Relationships between AR and MR under monopoly and monopolistic competition (Price changes or under imperfect competition)

- AR and MR curves will be downward sloping in both the market forms.
- AR lies above MR.
- AR can never be negative.
- AR curve is less elastic in monopoly market form because of no substitutes.
- AR curve is more elastic in monopolistic market because of the presence of substitutes.

Relationship between TR and MR. (When price falls with the increase in sale of output)

- Under imperfect market AR will be downward sloping – which shows that more units can be sold only at a less price.
- MR falls with every fall in AR / price and lies below AR curve.
- TR increases as long as MR is positive.
- TR falls when MR is negative.
- TR will be maximum when MR is zero.

Break-even point: It is that point where TR = TC or AR=AC. Firm will be earning normal profit.

Shut down p **:** A situati firm is able to cover only variable costs or TR = TVC

Formulae at a glance:

- TR = price or AR × Output sold or TR = ∑ MR
- AR (price) = TR ÷ units sold
- $MR_n = MR_n - MR_{n-1}$

HOTS

1. Can MR be negative or zero.

Ans:- Yes, MR can be zero or negative.

2. If all units are sold at same price how will it affect AR and MR?

Ans:- AR and MR will be equal at levels of output.

3. What is price line?

Ans:- Price line is the same as AR line and is horizontal to X-axis in perfect competition.

4. Can TR be a horizontal Straight line?

Ans:- Yes, when MR is zero.

5. What do you mean by revenue?

6. Explain the concept of revenue (TR, AR and MR)

7. Define AR

8. Prove that AR = price

9. Prove that AR is nothing but demand curve.

10. Explain the relationships between AR and MR when price is constant and when price falls.

11. Explain the relationships between TR and MR when price is constant.

12. What is break- even point? Explain with a diagram.

13. When the situation of 'shut – down' point arises for a firm?

14. What happens to TR when a) MR is increasing, b) decreasing but remains positive and c) MR is negative?

Ans:- a) TR increases at an increasing rate.

b) TR increases at a diminishing rate.

c) TR decreases.

15. Why AR is more elastic in monopolistic competition than monopoly?

Ans:- Monopolistic competition market has close substitutes. Monopoly market does not have close substitutes.

16. Why TR is 45 ^{0} angle in perfect competition market?

Ans:- In perfect competition market the goods are sold at the same price so AR= MR and the TR increases at a constant rate.

17. Can there be Break- even point with AR = AC

Ans:- Yes there can be breakeven point with AR=AC.

CONCEPT OF SUPPLY

1. Individual supply refers to quantity of a commodity that an individual firm is willing and able to offer for sale at each possible price during a given period of time.
2. Market supply: It refers to quantity of a commodity that all the firms are willing and able to offer for sale at each possible price during a given period of time.
3. The supply curve of a firm shows the quantity of commodity (Plotted on the X-axis) that the firm chooses to produce corresponding to two different prices in the market (plotted on the Y-axis)
4. Supply Schedule refers to a table which shows various quantity of a commodity that a producer is willing to sell at different prices during a given period of time.
5. Determinants of supply are a) state of technology b) input prices c) Government taxation policy.
6. Law of supply: It states direct relationship between price and quantity supplied keeping other factors constant.
7. Movement along the supply curve: It occurs when quantity supplied changes due to change in its price, keeping other factors constant.
8. Shift in supply curve: It occurs when supply changes due to factors other than price.
9. Reasons for shift in supply curves: Change in price of other goods, change in price of factors of production, change in state of technology, change in taxation policy.
10. Expansion in supply: It occurs when quantity supplied rises due to increase in price keeping other factors constant.
11. Contraction of supply: It means fall in the quantity supplied due to fall in price keeping other factors constant.
12. Increase in supply refers to rise in the supply of a commodity due to favorable changes in other factors at the same price.
13. Decrease in supply: It refers to fall in the supply of a commodity due to unfavorable change in other factors at the same price.
14. Price elasticity of supply: The price elasticity of supply of a good measures the responsiveness of quantity supplied to changes in the price of a good.
15. Price elasticity of supply = %change in qty supplied/ %change in price.
16. Geometric method:

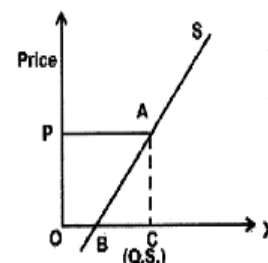
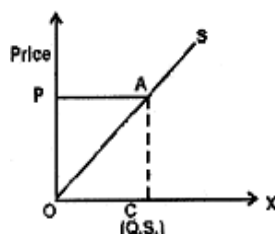
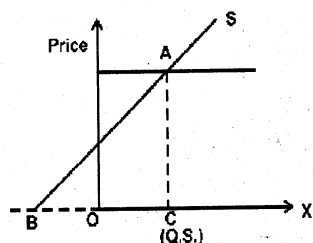



Fig. 1 Fig. 2 Fig.3

Es at a point on the supply curve = $\frac{\text{Horizontal segment of the supply curve}}{\text{Quantity supplied}}$

Fig.1: BC/OC>1 **fig. 2**: BC/OC=1 **fig 3**. BC/OC<1

FREQUENTLY ASKED QUESTIONS – CBSE BOARD EXAMINATION

One Mark Questions (1M)

1. Define the law of supply.
2. Define market supply.
3. What do you understand by supply curve of a firm?
4. What do you mean by elasticity of supply?
5. Define supply schedule.
6. Define revenue of a firm? OR give meaning of revenue?
7. Define Marginal Revenue?
8. What is Average revenue?
9. When will the marginal revenue become negative?
10. What happens to total revenue when Marginal revenue is zero?
11. In which market the Average revenue is equal to marginal Revenue?

Three Marks Questions (3M)

1. Give reasons for the rightward shift in supply curve?
2. Give reasons for the leftward shift in supply curve?
3. If the price of the commodity falls by 10 % and consequently the quantity supply decreases by 20 % what will be elasticity of supply?

Four Marks Questions (4 M)

1. Briefly explain the geometric method of measuring price elasticity of supply?
2. Distinguish between change in supply and change in quantity supplied?
3. Explain the movement along the supply curve?

Three OR Four Marks Questions (3M/4M)

1) What changes will take place in marginal Revenue when:
   a) TR increase at an increasing rate?
   b) TR increases at a diminishing rate?
   2) Complete the following table:

Units	1	2	3	4	5	6
Total Revenue	20	-	-	56	-	-
Average Revenue	-	18	-	-	-	-
Marginal Revenue	-	-	12	-	4	0

Six Marks Questions (6 M)

1. Explain the determinants of supply?
2. Explain the relationship between Total Revenue and marginal Revenue using a Schedule and diagram?

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Unit VIII: Determination of Income and Employment

Key concepts

- Aggregate demand and its components.
- Propensity to consume and propensity to save
- Short run fixed price in product market equilibrium output, investment or output multiplier and the multiplier mechanism.
- Meaning of full employment and involuntary unemployment.
- Problems of excess demand and deficient demand.
- Measures to correct excess demand and deficient demand.
- Change in government spending.
- Availability of credit.
- **Autonomous consumption**: The consumption which does not depend upon income. (Or) The amount of consumption expenditure when income is zero. C > 0. Even if income is zero consumption cannot be zero. Consumption will take place from past savings for survival.
- **Autonomous Investments**: It is Investment which is made irrespective of level of income. It is generally run by the government sector. It is income inelastic. The volume of autonomous investment is same at all level of income.

Key points

- Determination of income, output and employment is the core of the subject matter of macroeconomics.
- AD and AS together determine the level of income, output and employment.
- Aggregate demand is the total demand of goods and service in the economy.
- **The main components of AD are-**
  1. House hold consumption expenditure.
  2. Investment expenditure.
  3. Government consumption expenditure
  4. Net export.
- **Household consumption expenditure** is the expenditure incurred by the household on the purchase of goods and services to satisfy their wants.
- **Investment expenditure** refers to the expenditure incurred by the private firms and government on the purchase of capital goods such as plant and equipment.
- **Government consumption** expenditure refers to the expenditure incurred by the government on the purchase of goods and services.
- **Net export** refers to the difference between export and import.
- **AD=C+I+G+(x-m).**
- In a two sector economy AD =C+I.
- Aggregate supply is the sum total of consumption expenditure and saving.

  AS=C+S

PROPENSITY TO CONSUME AND PROPENSITY TO SAVE.

- The relationship between consumption and income is called propensity to consume or consumption function.

1. $C=f(Y)$.

- Consumption function may be represented by an equation.

  $$C=a+b(Y)$$

  C=consumption, a =consumption at zero level of income b=MPC (slope of the consumption curve) Y=income.

  The consumption equation shows the level of consumption for various level of income.
- Propensity to consume is of two types
  A) Average propensity to consume (APC)
  B) Marginal propensity to consume (MPC).
- APC= ratio of total consumption to total income.
  $APC=C/Y$.
- $MPC=\Delta C/\Delta Y$.
- Propensity to save indicates the tendency of the households to save at a given level of income. It shows the relation between saving and income.
- Propensity to save is also of two types.
  A. Average propensity to save (APC)
  B. Marginal propensity to save.(MPC)
- Average propensity to save is the ratio of saving to income
  $APC=S/Y$.
- Marginal propensity to save is the ratio of change in saving to change in income
  $MPS=\Delta S/\Delta Y$.
- There is relationship between APC and APS.
  $APC+APS=1$
  $APC=1-APS$.
- There is relationship between MPC and MPS.
  $MPC+MPS=1$
  $1-MPC=MPS$.

Meaning of involuntary unemployment and full employment.

- Involuntary unemployment refers to a situation in which people are ready to work at prevailing wage rate, but do not find work.
- Full employment refers to a situation in which no one is unemployed i.e.…there is no involuntary unemployment.
- According to Keynes full employment signifies a level of employment where increase in aggregate demand does not lead to an increase in the level of output and employment.
  Increase in demand beyond full employment causes prices to go up.

DETERMINATION OF INCOME AND EMPLOYMENT.

- The determination of income and employment in the Keynesian theory depends on the level of AD and AS.
- Equilibrium level of income and output is determined where,
  1) AD=AS 2) Planned saving =planned investment.

- In a two sector economy Ad=C+I, AS=Y, Y=C+I.
- Suppose that C=40+0.75Y(CONSUMPTION FUNCTION) and I =Rs.60 (investment function)then the equilibrium level of income is obtained as
  Y=C+I
  Y=40+0.75Y=60
  Y-0.75Y=100
  0.25Y=100
  Y=10000/25
  Y=400crores.
- Investment multipliers and its working.
- Investment multiplier explains the relationship between increase in investment and the resultant increase in income.
- Investment multiplier is the ratio of change in income to change in investment.
  Multiplier (k) =$\Delta y/\Delta I$.
- The value of multiplier depends on the value of marginal propensity to consume (MPC).
- There is direct relationship between k and MPC.
- Multiplier also depends on the marginal propensity to save
- There is inverse relationship between multiplier and MPS.

IMPORTANT FORMULAE.

- AD=C+I (two sector economy).
- APC=C/Y.
- APS=S/Y.
- APC+APS=1
- MPC=$\Delta C/\Delta Y$
- MPS=$\Delta S/\Delta Y$
- MPS+MPC=1 AND 1-MPC=MPS
- K=$\Delta Y/\Delta C$ or K=1/MPS or K=I/I-MPC
- C= $\bar{c}$+b(Y)
- S= -a+(1-b)Y

$\bar{c}$= autonomous consumption
-a= negative saving
(1-b)=MPS

SHORT RUN FIXED PRICE ANALYSIS

Basic Concept

Assumption

1) Fixed Price :

In the short period price is fixed (constant) and elasticity of supply is infinite i.e., supply curve is perfectly elastic. It means the suppliers are willing to supply whatever amount of goods, consumer will demand at that price.

2) Fixed Interest Rate : Interest rate remains constant.
3) Aggregate supply is perfectly elastic at this price.

Under these circumstances equilibrium output will be determined by aggregate demand at this price in the economy. At a fixed price the value of ex-ante aggregate demand for final goods is the sum of ex-ante consumption expenditure C and ex-ante investment expenditure I on final goods.

$$AD=C+I$$

Consumption function $C = \bar{c} + b(Y)$

$\bar{c}$ = Autonomous consumption

b= marginal propensity to consume due to unit increase in income

In the short period, price and rate of interest remaining constant i.e., ex-ante Investment expenditure is uniform i.e. same amount every year.

Hence, $I = \bar{I}$

$\bar{I}$ = Autonomous Expenditure

we also assume that Aggregate Supply at this cost price is determined by aggregate demand which is known as Effective demand principle. The level of AD required to achieve full employment equilibrium is called effective demand. (or) AD at the point of equilibrium is called Effective demand.

AD = C+I (By substituting the value of consumption function)

$$AD = \bar{C} + \bar{I} + bY$$

When final good market is in equilibrium, quantity demanded = quantity supplied

$$AD = AS$$

$$Y = \bar{C} + \bar{I} + by$$

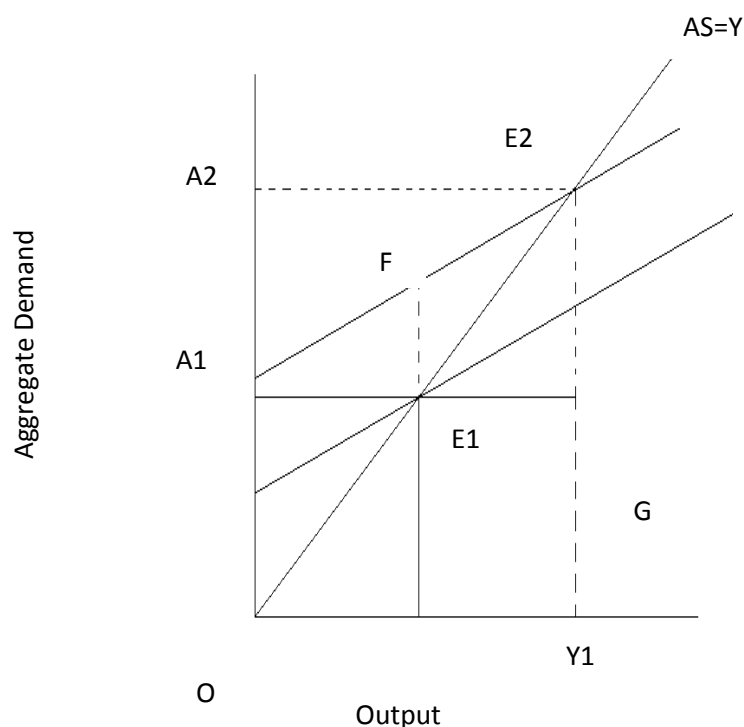
$Y = \bar{A} + bY$ ($\bar{A} = \bar{C} + \bar{I}$ showing total autonomous expenditure

$$Y - bY = \bar{A}$$

$$Y(l - b) = \bar{A}$$

$$Y = \bar{A} / l - b$$

Y depends upon A (C (or) I) or MPC.

Effects of an autonomous change on equilibrium in the product market.

The line AD1 and AD2 correspond to the values of A, via A1 and A2 respectively

AS is the 45° line is equal to one

The 45° line represents point at which AD and output are equal.

The AD1 line intersects the 45° line at point E1.
At equilibrium point the equilibrium values of output and aggregate demand are OY1 and AD1.
When autonomous investment increases the AD1 line shifts upwards and assumes the position AD2.
The value of aggregate demand at output OY1 is Y1F which is greater than the value of output OY1 = Y1E1 by an amount E1F

- E1F measures the amount of excess demand that emerges in the economy as a result of the increase in autonomous expenditure: The new AD2 intersects the 45° line at point E2 at the new equilibrium output and AD2 have increased by an amount E2G which is greater than the initial increment in autonomous expenditure E1F.

1 MARK QUESTIONS

1. What is the relation between APC and APS?
Ans. APC+APS=1

2. What is the relation between MPC and MPS?

Ans. MPS+MPC=1.

3. If APC is 0.7 then how much will be APS?

Ans. 1-0.7=0.3

4. If MPC =0.75, what will be MPS?

Ans. MPC+MPS=1

1-0.75=0.25

5. State the important factor influencing the propensity to consume in an economy?

Ans. The level of income (Y) Influences the propensity to consume (c) of an economy.

6. What is meant by investment?

Ans. Investment means addition to the stock of capital good, in the nature of structures, equipment or inventory.

7. What is the investment demand function?

Ans. The relationship between investment demand and the rate of interest is called investment demand function.

8. What is equilibrium income?

Ans. The equilibrium income is the level of income where AD=AS i.e.…AD=AS and planned saving equals planned investment.

9. Give the formula of investment multiplier in terms of MPC.

Ans. K=1/1-MPC

10. What can be the minimum value of investment multiplier?

Ans. One.

11. What is the maximum value of investment multiplier?

Ans. Infinity.

12. Give the equation of propensity to consume.

Ans. $C=\bar{a}+by$.

13. Write down the equation of saving function?

Ans. S= -a+ (1-b) y.

3 AND 4 MARKS QUESTIONS.

1. Explain the components of equation $c=\bar{a}+by$.

Ans. ‘a’ is called intercept and it represents the amount of consumption when there is a zero level of income i.e. autonomous consumption. The consumption is positive at zero level of income. The coefficient ‘b’ measures the slope of consumption. The slope gives the increase in consumption per unit increase in income. This is called as MPC. Consumption changes by ‘b’ for every one rupee change in income. Consumption changes in the same direction as income.

2. Derive the saving function from the consumption function $c=\bar{a}+by$.

Ans. Saving is equal to income minus consumption (y=c+s).The saving function relates to the level of savings to the level of income. It is derived from the consumption which is as follows:

Y=C+S

S=Y-C

since C=¯a+bY.

therefore,

S=Y-(a+bY)

S= -a+(1-b)Y (**SAVING FUNCTION**).

3. Explain the components of S= -a+ (1-b) Y.

Ans. The saving function is S= -a+ (1-b) Y.-a represents the intercept term and it represents the amount of savings done when there is zero level of income. The saving is negative at zero level of income because at zero level of income consumption (a) is positive. Negative saving is nothing but dissaving, this means that at zero level of income there is dissaving of amount –a.

The coefficient (1-b) measures the slope of the saving function. The slope of the saving function gives the increase in savings per unit increase in the income. This is known as MPS. Since 'b', that is MPC is less than one, it follows that (1-b) i.e. MPS is positive. Saving is an increasing function of income.

4. Can the value of APS be negative? If yes then when?

Ans. The value of APS can be negative when the value of consumption exceeds the value of income. At low level of income saving is negative.

e.g.: if income is Rs 1000 and consumption expenditure is Rs 1200

Y=C+S S=Y-C

1000-12000=-200

APS=-200/1000=0.2 APS=S/Y.

APS=-0.2.

5. **Can the average propensity to consume be greater than one? Give the reason for your answer.**

Ans. APC can be greater than one when the consumption exceeds the income. At that level APS will be negative .when the APS is negative APC will be greater than one.

e.g.: if the income is 1000 and the consumption is 1200, APC =1200/1000=1.20.

6. When can the APC be equal to one? Give reason for your answer.

Ans. APC can be equal to one when APS =0, i.e when consumption = income.

E.g: y=1000, c=1000.

APC=C/Y 1000/1000=1

APC=1

APC+APS=1

1-APC=APS

1-1=0

7. Explain the meaning of investment multiplier? What can be its minimum value and why?

Ans. Defined as the ratio of change in the income to the change in the investment.

$K=\Delta Y/\Delta I$.

The value of the multiplier is determined by the MPC. It is directly related to MPC.

K=1/1-mpc = 1/1-0 =1

K=1

Minimum value of K is when minimum value of MPC=0, the minimum value of K will be unit one.

8. Explain the working of a multiplier with an example.

Ans. Multiplier tells us what will be the final change in the income, as a result of change in investment. Change in investment results in the change in income. Symbolically:

$\Delta I \rightarrow \Delta Y \rightarrow \Delta C \rightarrow \Delta Y$

The working of a multiplier can be explained with the help of the following table which is based on the consumption that is, $\Delta I=1000$ and MPC=4/5.

PROCESS OF INCOME GENERATION.

ROUNDS	ΔI	ΔY	ΔC
1.	1000	1000	4/5×I000=800
2.	-	800	4/5×800=640
3.	-	640	4/5×640=512
4.	-	512	4/5×512=409.6
↓∞	↓∞	↓∞	↓∞
	TOTAL	5000	4000

As per the table the initial increase in the investment of Rs 1000 there is a total increase in the income by Rs 5000 given MPC=4/5 . Out of this total increase in the income Rs 4000 will be consumed and Rs 5000 be saved.

The sum of total increase in income is also derived as:

Δy=1000+800=640+512+…………….infinity.

$1000+4/5\times1000(4/5)^2\times1000+(4/5)^3\times1ooo+$………..infinity

$=1000[1+4/5+ (4/5)^2+(4/5)^3+$………infinity]

=1000[1/1-4/5] = 1000×5/1=Rs. 5000 cores.

9. Differentiate between ex ante and ex post investment.

Ans. Ex ante is the planned investment which the planner intends to invest at different level of income and employment in the economy.

Ex post investment may differ from ex ante investment when the actual sales differ from the planned sales and the firms thus face unplanned addition or reduction of inventories.

6 MARKS QUESTIONS WITH ANSWERS

1. Draw a hypothetical propensity to consume curve from it draw the propensity curve to save curve

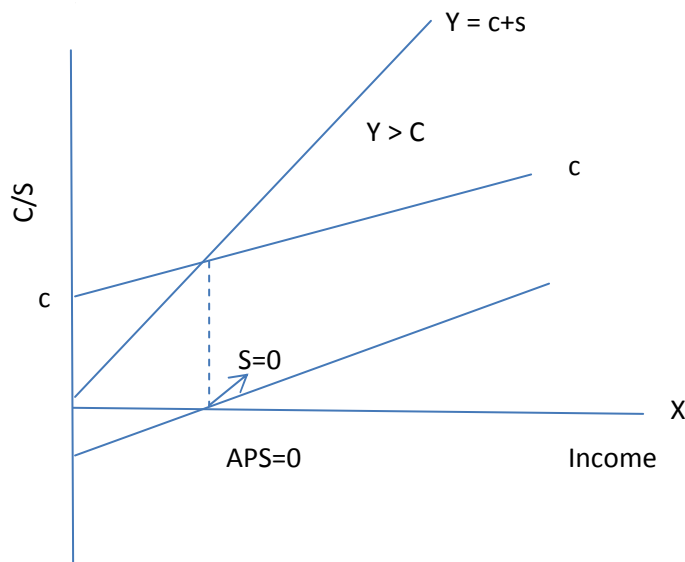
Ans. APC=C/Y APS=S/Y

Propensity to save curve

Is drawn from propensity to consume curve

When Y=C APC=1

Till that point APS is negative at point‘s’

When y>c there is a positive saving

2. Explain the determination of income and employment with AD and AS. (Give schedule)

AD= C+I

AS=C+S AS=Y (refers to countries national income)

The equilibrium level of income is determined at a point when AD=AS.

Equilibrium can be achieved at full employment and even at under employment situation.

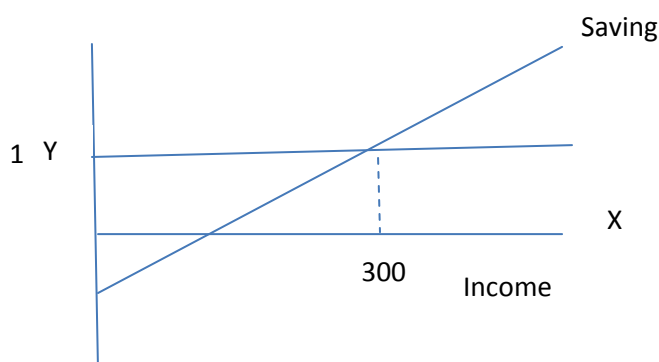
It may not be always at full employment condition in an economy.

y	c	I	AD=C+I	AS=Y	
0	50	100	150	0	
100	100	100	200	100	
200	150	100	250	200	
300	200	100	300	300	AD=AS
400	250	100	350	400	
500	300	100	400	500	

The above schedule shows equilibrium level of income is 300 where AD=AS 300=300.

1. Explain the equilibrium level of income, employment and output with saving and investment approach. What happens when savings exceeds investment?

Ans. Equilibrium is achieved when planned saving is equal to planned investment that is S=I. This can be seen with the help of schedule and a diagram.

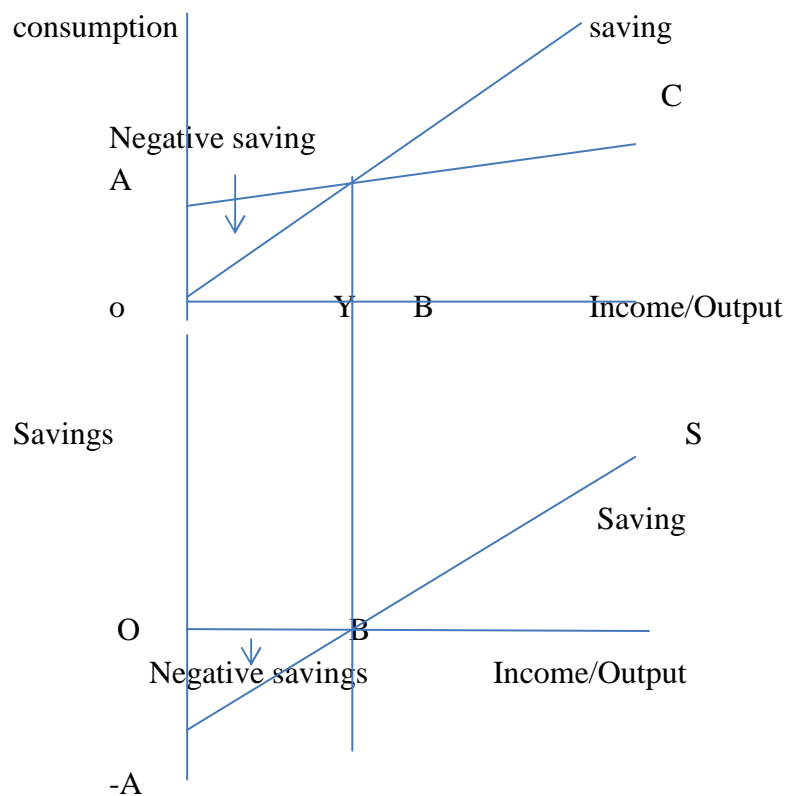
INCOME	CONSUMPTION	SAVING	INVESTMENT	
Y	C	(S=Y-C)	I	
0	50	-50	100	
100	100	0	100	
200	150	50	100	
300	200	100	100	S=I
400	250	150	100	

The equilibrium level of income is s 300 core and at this point S (100) =i (100) the equilibrium may necessarily not be at the full employment level.

When saving exceeds planned investment means people are consuming less and spending more as a result AD is less than AS.

This will lead to accumulation of more goods with producer .this will make the businessmen to reduce production consequently, output, income & employment will be reduced till the equilibrium level of income.

2. Draw a straight line consumption curve. From it derive a saving curve explaining the process. Show on the diagram.

a) The level of income at which average propensity to consume equal to one.

b) A level of income at which average propensity to save is negative.

Ac is the consumption curve and OA is the consumption expenditure at zero level of income. Income minus consumption is saving.

When income is 0, the economy's consumption level is OA. The corresponding level of saving is -0A.

So –a is the starting point of saving curve. At OB level of income consumption is equal to income, so saving are zero. so B is another point on saving curve .

Join A and B and extend this line to S, AS is the saving curve.

a) The level of income at which APC is equal to one is OB.
b) A level of income at which APS is negative OY.

NUMERICALS.

1. **If in an economy investment increases by Rs 1000 cores to Rs 1200 cores and as a result total income increases by 800 cores calculate capital MPS.**

Ans.Δ I=1200-1000=200

ΔY=800

ΔK=ΔY/ΔI=800/200=4

K=1/MPS=4

MPS=1/4=0.25
MPS=0.25

2. **IF in an economy the actual level of income is Rs 500crores whereas the full employment the level of income is RS 800 cores. The MPC=0.75 calculate the increase in investment required to achieve full employment income.**

Actual income=Rs500 cores
Full empl Income = Rs 800 cores
Δ y = 800 -500 = 300 cores

$$MPC = 0.75 = \frac{75}{100} = \frac{3}{4}$$

$$K = \frac{1}{01-MPC} \quad \frac{1}{1 - 0.75} = \frac{1}{0.25} = \frac{100}{25} \quad = 4$$

We know that Δ y = K. Δ I
300 = 4 × 4 I
Δ I = 75 crores

3. Calculation of APC and MPC given the level of Income and Consumption

Income	consumption	APC = c/y	MPC = Δc/Δy
0	4	-	-
10	12	1.20	0.80
20	20	1.00	0.80
30	28	0.93	0.80
40	36	0.90	0.80

4. Calculation of APS and MPS given the level of Income and consumption

Income (Rs in crores)	consumption (Rs in crores)	saving	APS	MPS
0	4	-4	-	-
10	12	-2	-0.20	0.20
20	20	0	0.00	0.20
30	28	2	0.07	0.20
40	36	4	0.10	0.20

Clue: APS = s/y MPS = Δs/Δy S=Y – C

5. Suppose the consumption equals c= 40 + 0.75 y, Investment equals I = Rs 60 and Y= C + I. Find i) Equilibrium level of income ii) The level of consumption at equilibrium iii) level of saving at equilibrium

Ans: i) Y= C + I   AS = AD

Substituting the value of c and I we get

Y = 40 + 0.75y + 60   Y= C+ I   I=60

(Y-0.75y)= 100

(1-0.75)Y=100

0.25Y =100

Y=100/0.25

Y=10000/25

Y=400

Equilibrium level of income = Rs. 400 cr.

ii)AS =AD

C= 40 + 0.75y

Y = 400

C= 40 + 0.75(400) = 340

C=340

iii) Y= C + S   So S= Y-C

S= 400 - 340 = 60

S= 60 crores

6. In a two sector economy, the saving and investment functions are:

S= -10 + 0.2Y   I = -3 + 0.1Y

What will be the equilibrium level of income?

Ans: Equilibrium level of income S= I

-10 + 0.2y = -3 + 0.1y

0.2y – 0.1y = -3 + 10

0.1y =7

y = 70

7. Explain the components of the equation C= 20 + 0.90 y and construct a schedule for consumption where income is Rs 200 , Rs 300 , Rs 350 and Rs 400.

Components of equation c=20 + 0.90y explained in ¾ mark question number 1

The schedule for consumption is as follows

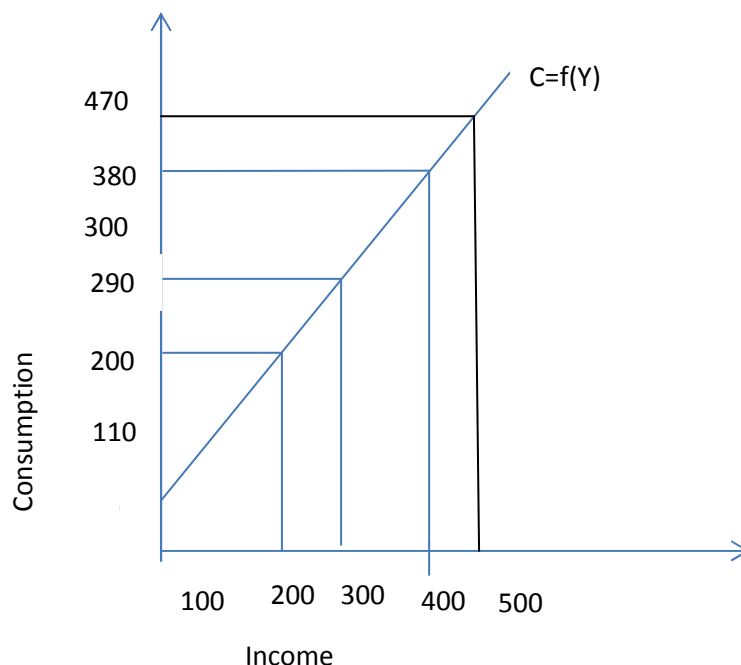
Y (Income)	c=20 + 0.90y	
200	200	c= 20 + 0.9 × 200
250	245	=20 + 180 = 200
300	290	c= 20 + 0.9 ×250
350	335	= 20 + 225 = 245

400	380	c= 20 + 0.9 × 300 = 290
		C= 20 + 0.9 × 350 + 335
		C= 20 + 0.9 × 400 = 380

8. The consumption function is C= 20 + 0.9y. The value of Income is given as 100,200, 300, 400 and 500. Find out the consumption schedule and draw the consumption curve.

The consumption schedule

Y (Income)	C = 20 + 0.9 Y
0	C=20
100	C=20 + 0.9 (100) = 110
200	C=20 + 0.9 (200) = 200
300	C=20 + 0.9 (300) = 290
400	C=20 + 0.9 (400) = 380
500	C=20 + 0.9 (500) = 470

The consumption curve is shown as

9. How is equilibrium output of final goods determined under short run fixed price?

Under short run fixed price, equilibrium output and equilibrium demand at fixed price and constant rate of interest can be found with the help of following formulas

$$Y = \frac{\bar{A}}{1 - b}$$

$Y =$ Value of equilibrium output

$\bar{A}$ = Total Autonomous consumption
b = MPC

Thus, value of equilibrium output (y) depends on values of $\bar{A}$ (i.e, $\bar{c} + \bar{I}$) and b
i.e AD = AS

$Y = \bar{C} + \bar{I} + by$

$Y = \bar{A} + by$ ($\bar{A} = \bar{C} + I$ showing total autonomous expenditure)

$Y - by = \bar{A}$
$Y (1-b) = \bar{A}$

$$Y = \frac{\bar{A}}{1-b}$$

Application level questions

Multiplier

1. In an economy an increase in investment leads to increase in national income which is three times more than the increase in investment (calculate marginal propensity to consume)
2. In an economy the MPC is 0.95 investment is increased by Rs. 100 crores. Calculate the total increase in income and consumption expenditure.
3. Explain with numerical example how an increase in investment in an economy affects the level of consumption.
4. An increase in investment leads to total rise in national income by Rs. 500 crores. If MPC is 0.9 what is the increase in investment? Calculate.
5. In an economy the MPC is 0.8 Investment is increased by Rs.500 crores.

   Calculate the total increase in income and consumption expenditure.
6. If in an economy MPC is 0.75 and its investment is increased by Rs.500 crores.

   Calculate the total increase in income and consumption expenditure
7. Complete the table

Income	MPC	Saving	APS
0	-	-90	-
100	0.6	-	-
200	0.6	-	-
300	0.6	-	-

8. In an economy S= -50 +0.5Y is the saving function (where S=saving and Y=national income) and investment expenditure is 7000. Calculate

(i) Equilibrium level of national income
(ii) Consumption expenditure at Equilibrium level of N.I

9. From the following information about an economy calculate

   (i) its Equilibrium level of national income and

   (ii) saving at Equilibrium level of N.I

   Consumption function = 200 + 0.9Y

   Investment expenditure I=3000.

10. Disposable income is Rs. 1000 crores and consumption expenditure is Rs.750 crores. Find out average propensity to save and average represent to consume.

11 In an economy investment expenditure increased by Rs.700 crores. The marginal propensity to consume is 0.9 calculate total increase income and consumption expenditure

12. Complete the following table

Level of income	**Consumption Expenditure**	**Marginal Propensity**	**Marginal Propensity to consume**
400	240		
600	320		
700	465		

13. In an economy an increase in investment leads to increase in national income which is three times more than the increase in investment calculate marginal propensity to consume.

14. The disposable income is Rs.2500 crores and saving is Rs.500 crores. Find out average propensity to consume

15. In an economy MPC is 0.75 if investment expenditure is increased by Rs.500 crores. Calculate the total increase in income and consumption expenditure

16. As a result of increase investment by 125 crores national income increased by 500 crores. Calculate multiplier, MPC and MPS.

17. Given consumption function C=100+0.75 Y (where C=consumption expenditure and Y=national income) and investment expenditure Rs.2000 .calculate

(i) Equilibrium level of national income
(ii) Consumption expenditure at equilibrium level of income

18. In an economy S= -50+0.5Y is the saving function (where S=saving and Y=national income) and investment expenditure is 9000 calculate
(i) Equilibrium level of national income
(ii) Consumption expenditure at equilibrium level of national income

19. From the following information about an economy calculate (i) Equilibrium level of N.I (ii) saving at Equilibrium level of income consumption function C=200+0.9Y (where C=consumption expenditure and Y=N.I. Investment expenditure I =5000

20. C=100+0.75 is a consumption function (where C= consumption expenditure and Y= N.I) and investment expenditures =1600 on the basis of this information calculate
(i) Equilibrium level of national income
(ii) Saving at Equilibrium level of NI.

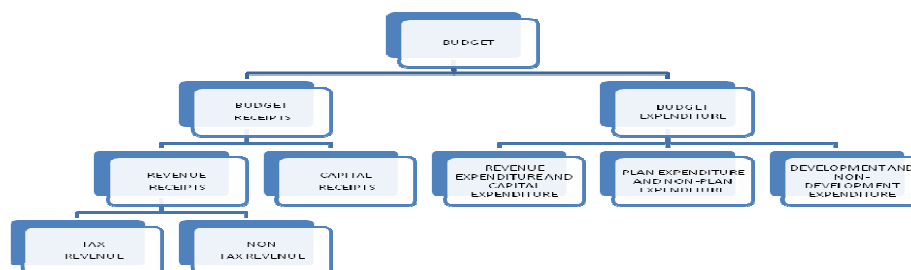
21. Given below is the consumption function in an economy C=100+0.10Y. with the help of a numerical example show that in this economy as income increase APC will decrease.

22. Given below is the consumption function in an economy C=100 +0.5Y with the help of a numerical example show that in this economy as income increases APS will increase.

UNIT IX: GOVERNMENT BUDGET AND THE ECONOMY

KEY CONCEPTS:

- Meaning of the Budget
- Objectives of the Budget
- Components of the Budget
- Budget Receipts
- Budget Expenditure
- Balanced, Surplus and Deficit Budgets
- Types of Deficits

GOVERNMENT BUDGET – A FLOW CHART

1 MARK QUESTIONS AND ANSWERS

1. Define a Budget.

Ans: It is an annual statement of the estimated Receipts and Expenditures of the Government over the fiscal year which runs from April –I to March 31.

2. Name the two broad divisions of the Budget.

Ans: i) Revenue Budget
ii) Capital Budget

3. What are the two Budget Receipts?

Ans: i) Revenue Receipts
ii) Capital Receipts

4. **Name the two types of Revenue Receipts.**

Ans: i) Tax Revenue
ii) Non-tax Revenue

5. **What are the two types of taxes?**

Ans: a) Direct Taxes: i) Income Tax, ii) Interest Tax, iii) Wealth Tax
b) Indirect Taxes: i) Customs duties, ii) Excise duties, iii) Sales Tax

6. **What are the main items of Capital Receipts?**

Ans: a) Market Loans (loans raised by the government from the public)
b) Borrowings by the Government
c) Loans received from foreign governments and International financial Institutions.

7. **Give two examples of Developmental Expenditure.**

Ans: Plan expenditure of Railways and Posts

8. **Give two examples of Non-Developmental expenditures.**

Ans: i) Expenditure on defence
ii) Interest payments

9. **Define Surplus Budget.**

Ans: A Surplus Budget is one where the estimated revenues are greater than the Estimated expenditures.

10. **What are the four different concepts of Budget Deficits?**

Ans: a) Budget Deficit
b) Revenue Deficit
c) Primary Deficit and
d) Fiscal Deficit

3 AND 4 MARK QUESTIONS AND ANSWERS

1. **Explain the objectives of the Government Budget.**

Ans: These below are the main objectives of the Government Budget.

a) Activities to secure reallocation of resources: - The Government has to reallocate resources with social and economic considerations.
b) Redistributive Activities: - The Government redistributes income and wealth to reduce inequalities.
c) Stabilizing Activities: - The Government tries to prevent business fluctuations and maintain economic stability.
d) Management of Public Enterprises: - Government undertakes commercial activities that are of the nature of natural Monopolies, heavy manufacturing etc., through its public enterprises.

2. **What are the components of the Budget?**

Ans: These below are the main components of the Government Budget. They are---

a) Budget Receipts
b) Budget Expenditure

Budget receipts may be classified as:

i) Revenue Receipts and
ii) Capital Receipts

Revenue Receipts may be classified as:

i) Tax Revenue and
ii) Non-tax Revenue

Budget Expenditure may be classified as -------

a) Revenue Expenditure and Capital Expenditure
b) Plan Expenditure and Non-Plan Expenditure
c) Developmental and Non-Developmental Expenditure

3. Define Direct Taxes and Indirect taxes and give two examples each.

i) Direct Tax: - These are those taxes levied immediately on the property and Income of persons, and those that are paid directly by the consumers to the state.
Examples: Income Tax, Wealth Tax, Corporation Tax etc.

ii) Indirect Taxes*:* These are those taxes that affect the income and property of persons through their consumption expenditure. Indirect taxes are those taxes levied on one person but paid by another person.
Examples: Customs duties, excise duties, sales tax, service tax etc.

4. What are the Non-Tax Revenue receipts?

Ans: These below are the Non-tax revenue receipts:

a) Commercial Revenue: Examples-Payments for postage, toll, interest on funds borrowed from government credit corporations, electricity, Railway services.
b) Interest and dividends
c) Administrative revenue: Examples: Fees, fines, penalties etc.,

5. What are the three major ways of Public Expenditure?

Ans: These below are the three ways of Public Expenditure----

a) Revenue Expenditure and Capital Expenditure
b) Plan Expenditure and Non-Plan Expenditure
c) Development and Non-developmental Expenditure.

6. What do you mean by Revenue Expenditure and Capital Expenditure?

Ans: i) Revenue *Expenditure*:- It is the expenditure incurred for the normal running of government departments and provision of various services like interest charges on debt, subsidies etc.,

ii)Capital Expenditure:- It consists mainly of expenditure on acquisition of assets like land, building, machinery, equipment etc., and loans and advances granted by the Central Government to States & Union Territories.

7. **Define Balanced, Surplus and Deficit Budgets.**

Ans: a) *Balanced Budget*:- It is one where the estimated revenue *EQUALS* the estimated expenditure.

b) *Surplus Budget*:- It is one where the estimated revenue is *GREATER THAN* the estimated expenditures.

c) *Deficit Budget*:- It is one where the estimated revenue is *LESS THAN* the estimated expenditure.

8. **Explain the four different concepts of Budget deficit.**

Ans: These are the four different concepts of Budget Deficit.

a) *Budget Deficit*:- It is the difference between the total expenditure, current revenue and net internal and external capital receipts of the government.
Formulae: B.D = B.E > B.R (B.D= Budget Deficit, B.E. Budget Expenditure B.R= Budget Revenue

b) *Fiscal Deficit*:- It is the difference between the total expenditure of the government, the revenue receipts PLUS those capital receipts which finally accrue to the government.
Formulae: F.D = B.E - B.R (B.E > B.R. other than borrowings) F.D=Fiscal Deficit, B.E= Budget Expenditure, B.R. = Budget Receipts.

c) *Revenue Deficit*: - It is the excess of governments revenue expenditures over revenue receipts.
Formulae: R.D= R.E – R.R., When R.E > R.R., R.D= Revenue Deficit, R.E= Revenue Expenditure, R.R. = Revenue Receipts.

d) *Primary Deficit*: - It is the fiscal deficit **MINUS** Interest payments.
Formulae: P.D= F.D – I.P, P.D= Primary Deficit, F.D= Fiscal Deficit, I.P= Interest Payment.

06 MARK QUESATIONS AND ANSWERS

1. How is tax revenue different from administrative revenue?

Ans:

a) *Tax Revenue*:-
   - *i)* It is the main source of revenue of the government
   - *ii)* It is the revenue that arises on account of taxes levied by the government.
   - *iii)* Taxes of two types i.e., Direct and Indirect.
   - *iv)* Direct taxes are those taxes levied immediately on the property and income of persons. Examples: Income Tax, Corporate Tax, Wealth Tax etc., Incidence and impact falls on same person.
   - *v)* Indirect taxes are those taxes levied on the production and sale of the goods. Examples: Sales Tax, Excise Duty etc. Tax paid by one person but burden taken by another person.

b) *Administrative Revenue*:-
   - i) It is the revenue that arises on account of the administrative function of the Government.

ii) It includes-
  a) Fees
  b) License fees
  c) Fines and penalties
  d) Forfeitures of surety by courts
  e) Escheat – means claim of the government on the property of a person who dies without having any legal heirs.

2. What is a balanced government budget? Explain the multiplier effect of a balanced budget.
   Ans:
   a) *Balanced Budget*: - It is one where the estimated revenue of the government equals the estimated expenditure.
   b) *Effect of Multiplier on the Balanced Budget*:-
      i) If only source of revenue is a lump sum tax, a balanced budget will then mean that the amount of tax equals the amount of expenditure (T=E)
      ii) A balanced budget has an expansionary effect on the economy.
      iii) Under balanced budget, the increase in income is equalent to the amount of government expenditure financed by tax revenue (i.e., $\Delta Y = \Delta G/\Delta T$)
      iv) The multiplier effect of a balanced budget is ONE (Unitary)
      v) A balanced budget is a good policy to bring the economy, which is under employment to a full employment equilibrium.

HIGHER ORDER THINKING SKILLS (HOTS)

1. **What are the three levels at which the budget impacts the economy?**
   Ans: These below are the three levels at which the budget impacts the economy.

a) *Aggregate fiscal discipline*:- This means having control over expenditures, given the quantum of revenues. This is necessary for proper macro-economic performance.
b) *Allocation of resources*: - The allocation of resources based on social priorities.
c) *Effective and efficient provision of programmes:-* Effectiveness measures the extent to which goods and services the government provides its goals.

NUMERICALS

1. **The following figures are based on budget estimates of Government of India for the year 2001 – 2002. Calculate i) Fiscal Deficit ii) Revenue Deficit and iii) Primary deficit.**

ITEMS	RS. BILLIONS
A) Revenue receipts	2,31,745
i) Tax Revenue	1,63,031
ii) Non-tax Revenue	68,714
B) Capital receipts	1,43,478
i) Recoveries of loans	15,164
ii) Other receipts	12,000
iii) Borrowings and other	1,16,314

liabilities	
C) Revenue expenditure	3,10,566
i) Interest payments	1,12,300
ii) Major subsidies	27,845
iii) Defence Expenditure	1,70,421
D) Capital Expenditure	64,657
E) Total Expenditure	3,75,223
i) Plan expenditure	1,00,100
ii) Non-plan expenditure	2,75,123

i) Ans: Fiscal Deficit = Total expenditure – Revenue receipts – Non-debt capital receipts = 3,75,223 – 2,31,745 – 15,164 – 12,000 = Rs. 1,16,314 billion.

ii) Revenue Deficit = Revenue expenditure – Revenue receipts
= 3, 10,566 – 2, 31,745 = Rs. 78,821 billion.

iii) Primary deficit = Fiscal deficit – Interest payments
= 1, 16,314 – 1, 12,300 = Rs. 4,014 billion.

2. From the following data about a government budget find

a) Revenue Deficit b) Fiscal Deficit and c) Primary Deficit.

S.No.	Items	Rs. (cr.)
01	Tax revenue	47
02	Capital receipts	34
03	Non-tax revenue	10
04	Borrowings	32
05	Revenue expenditure	80
06	Interest payments	20

Ans: a) Revenue Deficit = Revenue expenditure – (Tax revenue + Non-tax revenue) = 80 – (47+10) = 80 – 57 = 23 (cr.)

Fiscal Deficit = Borrowings = 32 (cr.)

Primary Deficit = Borrowings – Interest Payments 32 - 20 = 12 (cr.)

FREQUENTLY ASKED CBSE BOARD QUESTIONS

1. Define full employment? (1)

2. What do you mean by Aggregate Demand? (1)

3. Write any two components of aggregate demand? (1)

4. Define Aggregate Supply? (1)

5. When APC is 0.6, what is the value of APS? (1)

6. If the rate of MPC is 0.75 find the value of multiplier? (1)

7. Define investment multiplier? (1)

8. What are the conditions for equilibrium level of income and employment? (1)

9. What is meant by excess demand? (1)

10. Define inflationary gap. (1)

11. Define deficient demand? (1)

12. Define underemployment equilibrium? (3)

13. What are the monetary measures to correct excess demand? (3)

14. State the fiscal measures to correct excess demand? (3)

15. Explain any two monetary and fiscal measures to correct deficient demand? (4)

16. Define investment multiplier. What is the relationship between MPC and multiplier? (4)

17. State the components of AD. Explain any one. (4)

18. Explain investment multiplier with the help of an example. (4)

19. Derive saving function from consumption function. (4)

20. State the Keynesian psychological law of consumption function. (4)

UNIT X: BALANCE OF PAYMENTS AND FOREIGN EXCHANGE RATE

Foreign Exchange refers to all currencies other than the domestic currency of a given country.

Foreign exchange rate is the rate at which currency of one country can be exchanged for currency of another country.

Foreign Exchange Market: The Foreign Exchange market is the market where the national currencies are traded for one another.

Functions of Foreign Exchange Market:

1. Transfer function: It transfers the purchasing power between countries.
2. Credit function: It provides credit channels for foreign trade
3. Hedging function: It protects against foreign exchange risks.

FIXED EXCHANGE RATE SYSTEM: Fixed exchange rate is the rate which is officially fixed by the government, monetary authority and not determined by market forces.

FLEXIBLE EXCHANGE RATE: Flexible exchange rate is the rate which is determined by forces of supply and demand in the foreign exchange market.

DEMAND FOR AND SUPPLY OF FOR FOREIGN EXCHANGE

Demand for foreign exchange:

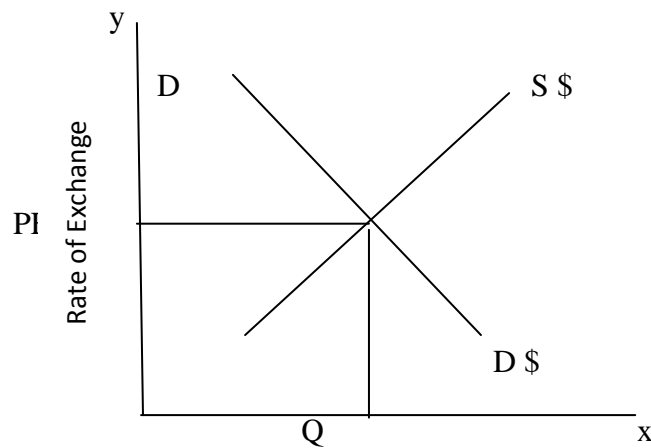
1. To purchase goods and services from other countries
2. To send gifts abroad
3. To purchase financial assets (shares and bonds)
4. To speculate on the value of foreign currencies
5. To undertake foreign tours
6. To invest directly in shops, factories, buildings
7. To make payments of international trade.

Supply of foreign exchange:

Foreign currencies flow into the domestic economy due to the following reason.

1. When foreigners purchase home countries goods and services through exports
2. When foreigners invest in bonds and equity shares of the home country.
3. Foreign currencies flow into the economy due to currency dealers and speculators.
4. When foreign tourists come to India
5. When Indian workers working abroad send their saving to families in India.

EQUILIBRIUM IN THE FOREIGN EXCHANGE MARKET

The equilibrium exchange rate is determined at a point where demand for and supply of foreign exchange are equal. Graphically interaction of demand and supply curve determines the equilibrium exchange rate of foreign currency.

Demand and supply of US$

Managed Floating: This is the combination of fixed and flexible exchange rate. Under this, country manipulates the exchange rate to adjust the deficit in the B.O.P by following certain guidelines issued by I.M.F.

Dirty floating: If the countries manipulate the exchange rate without following the guidelines issued by the I.M.F is called as dirty floating.

BALANCE OF PAYMENTS: MEANING AND COMPONENTS

Meaning: The balance of payments of a country is a systematic record of all economic transactions between residents of a country and residents of foreign countries during a given period of time.

BALANCE OF TRADE AND BALANCE OF PAYMENTS

Balance of trade: Balance of trade is the difference between the money value of exports and imports of material goods (visible item)

Balance of payments: Balance of payments is a systematic record of all economic transactions between residents of a country and the residents of foreign countries during a given period of time. It includes both visible and invisible items. Hence the balance of payments represents a better picture of a country's economic transactions with the rest of the world than the balance of trade.

STRUCTURE OF BALANCE OF PAYMENT ACCOUNTING

A balance of payments statement is a summary of a Nation's total economic transaction undertaken on international account. There are two types of account.

1. **Current Account:** It records the following 03 items.

a) *Visible items of trade*: The balance of exports and imports of goods is called the balance of visible trade.

b) *Invisible trade*: The balance of exports and imports of services is called the balance of invisible trade E.g. Shipping insurance etc.

c) *Unilateral transfers*: Unilateral transfers are receipts which resident of a country receive (or) payments that the residents of a country make without getting anything in return e.g. gifts.

The net value of balances of visible trade and of invisible trade and of unilateral transfers is the balance on current account.

2. **CAPITAL ACCOUNT:** It records all international transactions that involve a resident of the domestic country changing his assets with a foreign resident or his liabilities to a foreign resident.

VARIOUS FORMS OF CAPITAL ACCOUNT TRANSACTIONS

1. ***Private transactions:*** These are transactions that are affecting assets (or) liabilities by individuals.
2. ***Official transactions***: Transactions affecting assets and liabilities by the government and its agencies.
3. ***Direct Investment:*** It is the act of purchasing an asset and at the same time acquiring and control of it.
4. ***Portfolio investment:*** It is the acquisition of assets that does not give the particular control over the asset.
   The net value of balances of direct and portfolio investment is called the balance on capital account.

OTHER ITEMS IN THE BALANCE OF PAYMENT

They are included since the full balance of payments account must balance. These items are as follows.

1) **Errors and Omissions**: They may arise due to the presence of sampling and due to his honesty.
2) **Official reserve transactions**: All transactions except those in this category may be termed as autonomous transactions. They are so called because they were entered into with some independent motive. Balance of payments always balance.

AUTONOMOUS AND ACCOMMODATING ITEMS

Autonomous items: Autonomous items in the B.O.P refer to international economic transactions that take place due to some economic motive such as profit maximization. These items are often called above the line items in the B.O.P.

The balance of payments is in a deficit if the autonomous receipts are less than autonomous payments. The monetary authorities may finance a deficit by depleting their reserves of foreign currencies, or by borrowing from I.M.F.

Accommodating items: Accommodating items in the B.O.P. refer to transactions that occur because of other activity with the B.O.P such as government financing. Accommodating items are also referred to as below the line of items.

DISEQUILIBRIUM THE BALANCE OF PAYMENTS

There are a number of factors that cause disequilibrium in the balance of payments showing either a surplus or deficit. These causes are categorized into 3 factors.

I **Economic factors**: Large scale development expenditure that may cause large imports.

Cyclical fluctuations in general business activities such as recession or depression.

High domestic prices may result in imports.

II **Political factors**: Political instability may cause large capital outflows and hamper the inflows of foreign capital.

III **Social factors**: Changes in tastes, preferences and fashions may affect imports and exports.

VERY SHORT ANSWER QUESTIONS.

1. Define foreign exchange rate.

Ans: Foreign exchange rate is the rate at which currency of one country can be exchanged for currency of another country.

2. What do you mean by Foreign Exchange Market?

Ans: The foreign exchange market is the market where international currencies are traded for one another.

3. What is meant by Fixed Exchange Rate?

Ans: Fixed Rate of exchange is a rate that is fixed and determined by the government of a country and only the government can change it.

4. What is equilibrium rate of exchange?

Ans: Equilibrium exchange rate occurs when supply of and demand for foreign exchange are equal to each other.

5. Define flexible exchange rate.

Ans: Flexible rate of exchange is that rate which is determined by the demand and supply of different currencies in the foreign exchange market.

6. What is meant by appreciation of currencies?

Ans: Appreciation of a currency occurs when its exchange value in relation

to currencies of other country increases.

7. Define Spot exchange rate.

Ans: The spot exchange rate refers to the rate at which foreign currencies are available on the sport.

8. Define forward market.

Ans: Market for foreign exchange for future delivery is known as the forward market.

9. What is meant by balance of payments?

Ans: Balance of payments refers to the statement of accounts recording all economic transactions of a given country with the rest of the world.

10. What do you mean by balance of trade?

Ans: Balance of trade is the difference between the value of imports and exports of only physical goods.

11. The balance of trade shows a deficit of Rs. 600 crores, the value of exports is Rs.1000 crores. What is value of Imports?

Ans: Balance of Trade = Exports of goods – import of goods

Import of good = Export of goods – (B.O.T)

= 1000- (-600)

= Rs. 1600.

12. What is the balance of visible items in the balance of payments account called?

Ans:- Balance of trade

13. What do you mean by disequilibrium in BOP?

Ans:- Disequilibrium in BOP is means either there is a surplus or deficit in balance of payment account.

14. List two items of the capital account of BOP account.

Ans:- i) external assistance ii) commercial borrowing iii) foreign investment

15. Which transactions bring balance in the BOP account?

Ans:- Accommodating transactions bring balance in the BOP account.

16. Define autonomous items in BOP.

Ans:- Autonomous items in BOP refers to international economic transaction that take place due to some economic motive such as profit maximization. These items are independent of the state of the country balance of payments.

17. What is the other name of autonomous items in the BOP?

Ans:- The other name of autonomous items in BOP is above the line item.

18. When does a situation of deficit in BOP arises?

Ans:- A situation of deficit in BOP arise when autonomous receipts are less than autonomous payments.

19. What is meant by managed floating?

Ans:- It is a system that allows adjustments in exchange rate according to a set of rules and regulations which are officially declared in the foreign exchange market.

20. What is meant by dirty floating?

Ans:- Manipulate the exchange rate without following the guidelines issued by IMF is called dirty floating.

ANSWER QUESTIONS (3 / 4 MARKS)

1. Why is foreign exchange demanded?

Ans:- Foreign exchange is demanded for the following purposes.

a) Payment of International loans
b) Gifts and grants to rest of the world
c) Investment in rest of the world.
d) Direct purchases abroad for goods and services as well as imports from rest of the world.

2. What determines the flow of foreign exchange in to the country?

Ans: - Following factors contribute to the flow of foreign exchange in to the country.

a) Purchases of domestic goods by the foreigners

b) Direct foreign investment and portfolio investment in the home country.

c) Speculative purchase of foreign exchange.

d) When foreign tourists come to India.

3. Why does the demand for foreign exchange rise, when it price falls?

Ans:- With a fall in price of foreign exchange , the exchange value of domestic currency increases and that of foreign currency falls. This implies that foreign goods become cheaper and their domestic demand increases. The rising domestic demand for foreign goods implies higher demand for foreign exchange. So there is inverse relationship between price and demand for foreign exchange.

4. When price of a foreign currency falls, the supply of that foreign currency also fall why?

Ans: When price of a foreign currency falls it makes exports, investment by foreign residents costlier as a result supply of foreign currency falls.

5. Distinguish between autonomous and accommodating transaction of balance of payment account.

Ans: Autonomous transactions are done for some economic consideration such as profit, such transactions are independent of the state of B.O.P. Accommodating transactions are under taken to cover the deficit/surplus in balance of payments.

Give two examples explain why there is a rise in demand for a foreign currency when its price falls.

Ans:

Sl.	Forms of	Very Short (1	Short Answer	Long	Total
1	Unit 1	1(1)	3(1)	--	4
2	Unit 2	1(2)	3(2), 4(1)	6(1)	18
3	Unit 3	3(1)	3(1), 4(2)	6(1)	18
4	Unit 4	1(1)	3(1)	6(1)	10
5	Unit 5	Not to be tested			
6	Unit 6	--	3(3)	6(1)	15
7	Unit 7	1(2)	--	6(1)	08
8	Unit 8	1(2)	4(1)	6(1)	12
9	Unit 9	--	4(2)	--	08
10	Unit 10	1(1)	3(2)	--	07
	Sub Total	10(10)	30(10), 24(6)	36(6)	100

When price of foreign currency falls, imports are cheaper. So, more demand for foreign exchange by importers.

Tourism abroad is promoted as it becomes cheaper. So demand for foreign currency rises.

Distinguish between fixed and flexible foreign exchange rate.

Ans: When foreign exchange rate is fixed by Central Bank/government, it is called fixed exchange rate. When foreign exchange rate is determined by market forces/mechanism, it is flexible exchange rate.